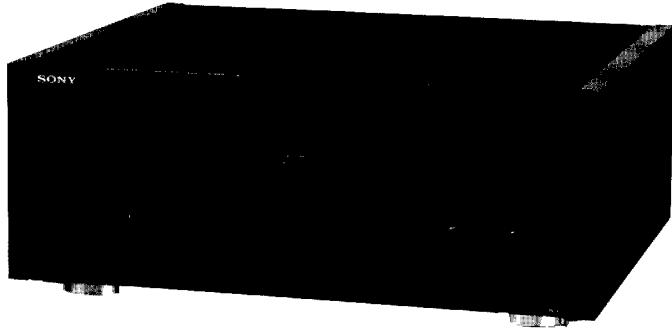


TA-N80ES

SERVICE MANUAL

AEP Model
E Model



SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 4 ohm loads, both channels driven, from 20 - 20,000 Hz; rated 270 watts per channel minimum RMS power, with no more than 0.006 % total harmonic distortion from 250 milliwatts to rated output.

With 8 ohm loads, both channels driven, from 20 - 20,000 Hz; rated 200 watts per channel minimum RMS power, with no more than 0.004 % total harmonic distortion from 250 milliwatts to rated output.

Other specifications

Item	Condition	Model except for North Europe	Model for North Europe
Continuous RMS power output (both channels driven simultaneously)	4 ohms 20 Hz - 20 kHz, THD 0.006 %	270 W + 270 W	—
	6 ohms 20 Hz - 20 kHz, THD 0.005 %	230 W + 230 W	190 W + 190 W
	8 ohms 20 Hz - 20 kHz, THD 0.004 %	200 W + 200 W	160 W + 160 W

Dynamic power	1 ohm	660 W	530 W
	2 ohms	800 W	640 W
	4 ohms	520 W	420 W
	6 ohms	370 W	300 W
	8 ohms	300 W	240 W
Power bandwidth (IHF)	4 ohms, 0.02 %	10 Hz - 100 kHz	—
	8 ohms, THD 0.02 %	10 Hz - 100 kHz	—
Dynamic headroom (78 IHF)	4 ohms	2.8 dB	—
	8 ohms	1.8 dB	—
Total harmonic distortion	4 ohms, at 10 watt output	0.004 %	—
	6 ohms, at 10 watt output	0.003 %	—
	8 ohms, at 10 watt output	0.0018 %	—

— Continued on page 2 —

STEREO POWER AMPLIFIER
SONY®



MICROFILM

Intermodulation (IM) distortion 60 Hz:7 kHz = 4:1	4 ohms, at rated output	0.006 %	—
	6 ohms, at rated output	0.005 %	
	8 ohms at rated output	0.004 %	
Damping factor	8 ohms, 1 kHz	100	
Slew rate	—	150 V/ μ sec 300 V/ μ sec (inside)	
Residual noise	network A	less than 35 μ V	
Frequency response	—	1 Hz - 200 kHz $^{+0}_{-3}$ dB	
Input sensitivity	—	UNBALANCED: 1 V, 30 kohms	
		BALANCED: 0.5 V, 600 ohms	
S/N (network) 78 IHF	FIXED VARIABLE	120 dB (A)	

General

System Super legato linear,
purecomplementary SEPP power amplifier,
powerful power supply

Power requirements Model for U.S.A. and Canada: 120 V AC, 60 Hz
Model for other countries: 120, 220 or 240V AC
adjustable, 50/60 Hz

Power consumption

Model for U.S.A.: 380 watts
Model for Canada: 950 VA
Model for North European
countries: 310 W
Models for European countries and other
countries: 510 W

Dimensions

Approx. 470 x 185 x 440 mm (w/h/d)
(18 $\frac{5}{8}$ x 7 $\frac{3}{8}$ x 17 $\frac{3}{8}$ inches)

Weight

including projecting parts and controls
Model for European countries:
Approx. 24 kg (52 lb 15 oz), net
other models: Approx. 26.3 kg (58 lb)

Supplied accessories

Power control cord (1)

Design and specifications subject to change without notice.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK OR DOTTED LINE WITH MARK ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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SECTION 1

GENERAL

English

Precautions

This section is extracted from instruction manual.

- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the plug out by the cord.
- Avoid installing or leaving the unit in a location:
 - near heat sources such as radiators, airducts or heaters
 - subject to direct sunlight
 - exposed to rain or moisture
 - where it is liable to come into contact with dust or dirt
 - that is unventilated, such as on a bookcase.
- Should any liquid or solid object fall into the unit, unplug the unit and have the unit checked by qualified personnel before operating it any further.
- AC power cord must be changed only at the qualified service shop.

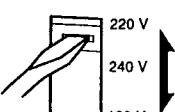
If you have any question or problem concerning your unit that is not covered in this manual, please consult your nearest Sony dealer.

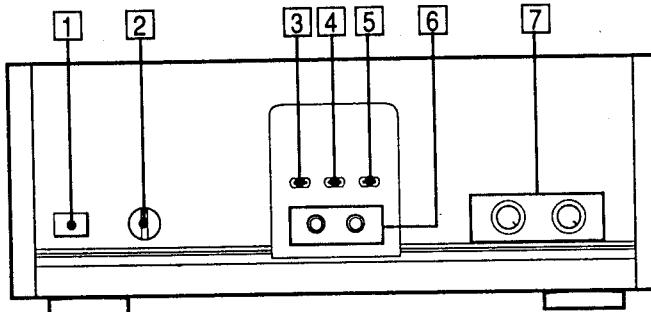
For the customers in the U.S.A.

For detailed safety precautions, see the leaflet "IMPORTANT SAFEGUARDS".

Operating Voltage

Before connecting the unit to an AC outlet, be sure that the operating voltage of your unit is identical with that of your local power supply.

U.S.A. and Canada	Operates on 120 V AC, 60 Hz.
European countries	Operates on 220 V AC, 50/60 Hz.
Other countries	<p>Operates on either 120 V, 220 V or 240 V AC, 50/60 Hz. The voltage selector is located on the rear panel. If the selector must be reset, disconnect the AC power cord and set the selector to the proper voltage of your local power supply.</p> 

Function of Controls**Fonction des commandes****[1] POWER switch****[2] SPEAKERS selector**

Selects speaker system A, B or both (A+B).
For headphone monitoring on the connected control amplifier, set the selector to OFF.

[3] PROTECTION indicator

Lights up for approximately 7 seconds immediately after turning on the unit. This indicates that the built-in muting circuit is activated.
In normal operating conditions, this does not light. If it lights up (speaker sound is not heard) while operating, an abnormality has occurred. In this case, disconnect the AC power cord and check the connected components and speaker systems.

[4] STEREO Indicator

Lights up when OPERATION (STEREO/MONO) is set to STEREO.

[5] MONO Indicator

Lights up when OPERATION (STEREO/MONO) is set to MONO.

[6] INPUT selectors

Select input source connected to the input jacks on the rear panel; FIXED or VARIABLE.

[7] RIGHT and LEFT (MONO) INPUT LEVEL controls

Control input signal sound level from the control amplifier connected to the VARIABLE input jacks.
Before turning ON the power, set these INPUT LEVEL controls to the "-20 dB" position.

[1] Interrupteur d'alimentation (POWER)**[2] Sélecteur d'enceinte (SPEAKERS)**

Sélectionne le système d'enceintes A, B ou les deux (A+B). Pour écouter au casque sur l'amplificateur de contrôle raccordé, régler le sélecteur sur OFF.

[3] Témoin de protection (PROTECTION)

S'allume pendant environ 7 secondes immédiatement après la mise sous tension de l'appareil. Ceci signifie que le circuit d'assourdissement incorporé est activé. En mode de fonctionnement normal, ce témoin ne s'allume pas.
S'il s'allume (le son de l'enceinte n'est plus perçu) pendant le fonctionnement, quelque chose d'anormal est arrivé. Dans ce cas, déconnecter le cordon d'alimentation secteur et les systèmes d'enceintes.

[4] Témoin de stéréo (STEREO)

S'allume lorsque OPERATION (STEREO/MONO) est réglé sur STEREO.

[5] Témoin de monophonie (MONO)

S'allume lorsque OPERATION (STEREO/MONO) est réglé sur MONO.

[6] Sélecteurs d'entrée (INPUT)

Sélectionne la source d'entrée raccordée aux prises d'entrée sur le panneau arrière; FIXED ou VARIABLE.

[7] Réglage gauche et droit (RIGHT et LEFT (MONO)

INPUT LEVEL
Règlent le niveau sonore du signal d'entrée depuis l'amplificateur de contrôle raccordé aux prises d'entrée VARIABLE. Avant de mettre l'appareil sous tension, régler ces commandes INPUT LEVEL sur la position "-20 dB".

System Connections

Connection Notes

- The power cord should be connected last of all, first making sure that the POWER switch is turned off.
- Cable connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.
- Cord plugs and jacks are color coded. Red plugs and jacks are for the right channel (R) and white ones are for the left channel (L).

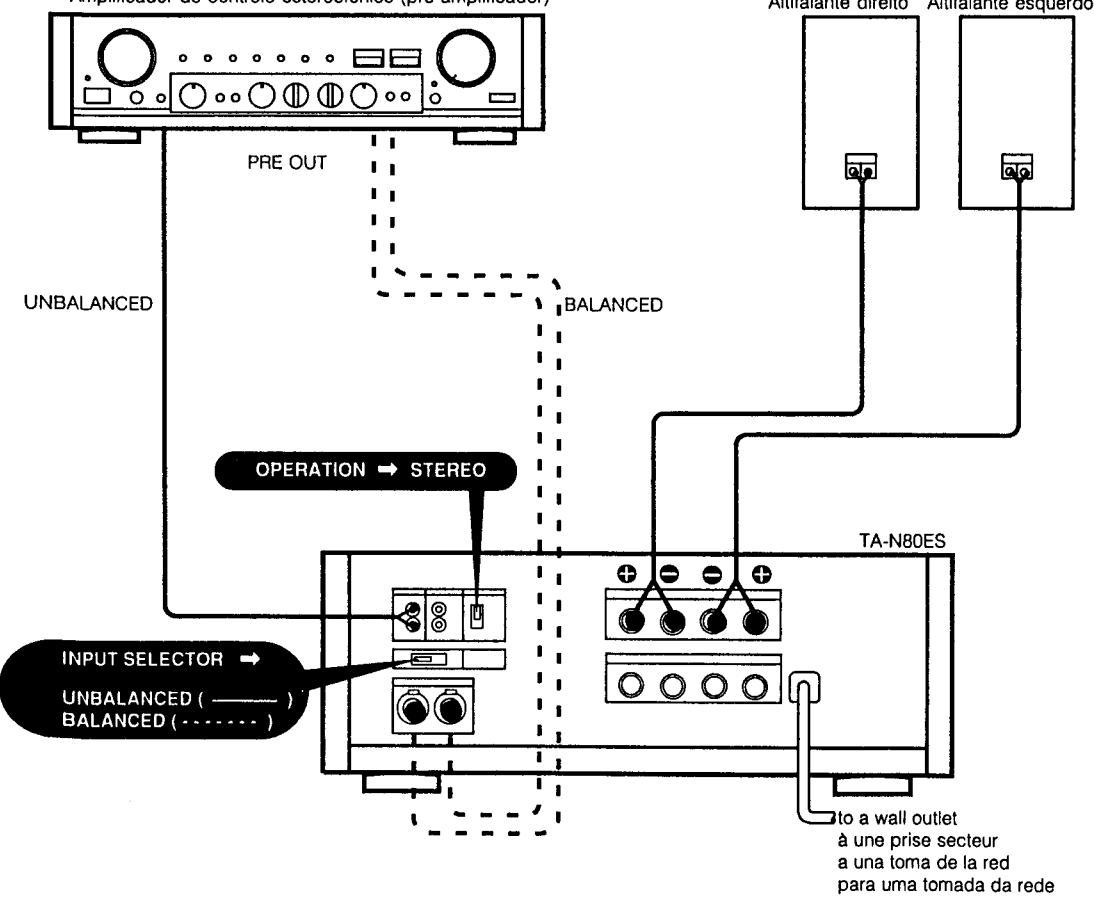
Connexions du système

Remarques sur les connexions

- Le cordon d'alimentation doit être raccordé en dernier, en s'assurant au préalable que l'interrupteur POWER est sur OFF.
- Les câbles de connexions doivent être entièrement insérés dans les prises, une connexion relâchée pouvant être la cause de bruit et de ronflement.
- Les fiches et prises des cordons sont codés avec une couleur. Les fiches et prises rouges sont destinées au canal droit et les blanches au canal gauche.

Connection as a stereo power amplifier Connexion comme amplificateur de puissance stéréo Conexión como amplificador de potencia estéreo Conexão como amplificador de potencial estereofônico

Stereo control amplifier (Preamplifier)
Amplificateur de contrôle stéréo (Préamplificateur)
Amplificador de control estéreo (Preamplificador)
Amplificador de controlo estereofônico (pré-amplificador)



Conexiones del sistema

Notas sobre las conexiones

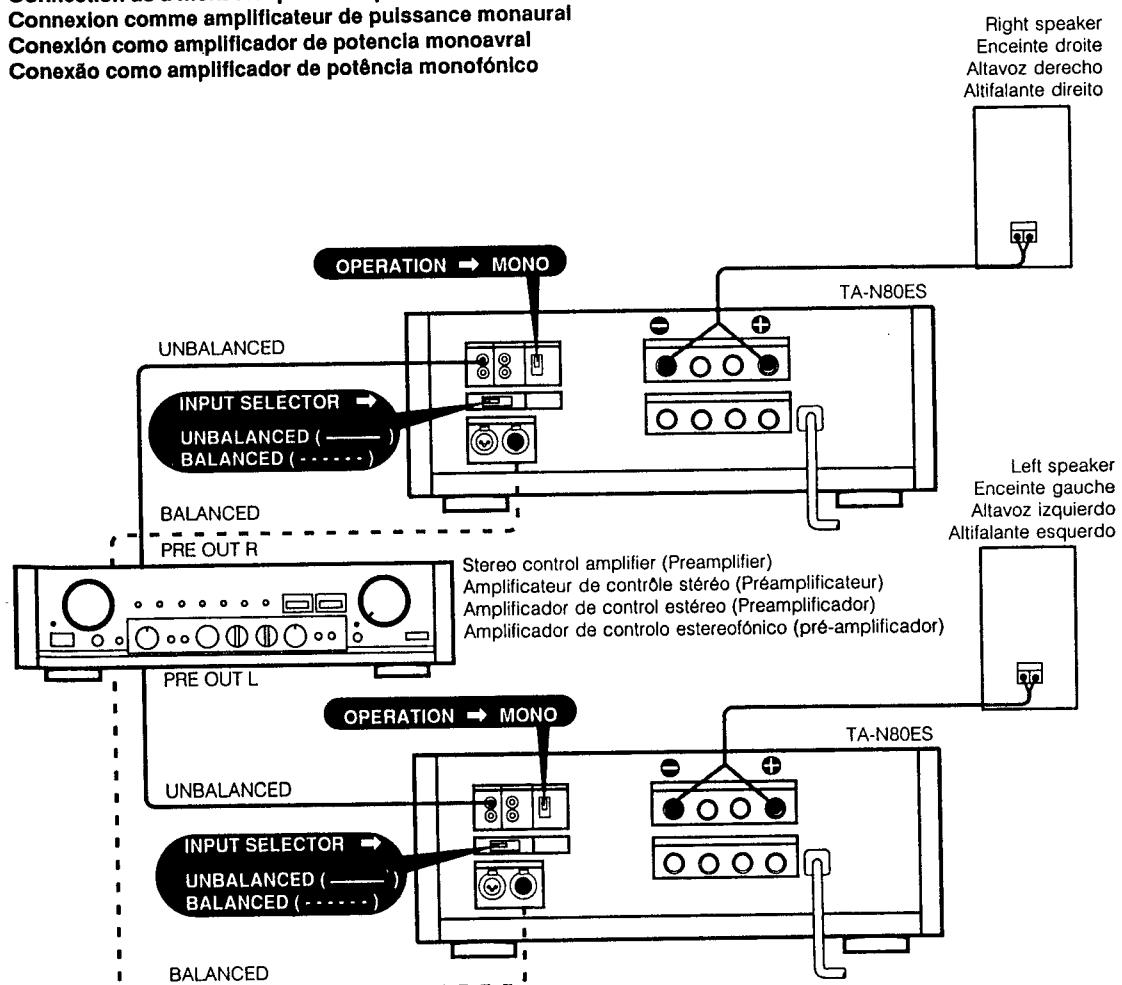
- El cable de alimentación debe conectarse al final de todo, primero asegurándose de que el interruptor POWER esté en OFF.
- Las clavijas de cables deberán insertarse firmemente en las tomas. Una conexión floja puede causar zumbido y ruido.
- Las clavijas y tomas de los cables están codificadas en color. Las clavijas y las tomas rojas son para el canal derecho y las blancas para el izquierdo.

Ligaçāo do sistema

Notas sobre as ligações

- O cabo de alimentação deve ser ligado por último. Primeiramente, assegure-se de que o interruptor de alimentação (POWER) está desligado.
- As fichas dos cabos devem estar firmemente inseridas nas suas respectivas tomadas. Ligações frouxas podem causar zumbidos e ruídos.
- As fichas estão codificadas por cores. As fichas e as tomadas vermelhas são para o canal da direita (R), e as brancas para o canal da esquerda (L).

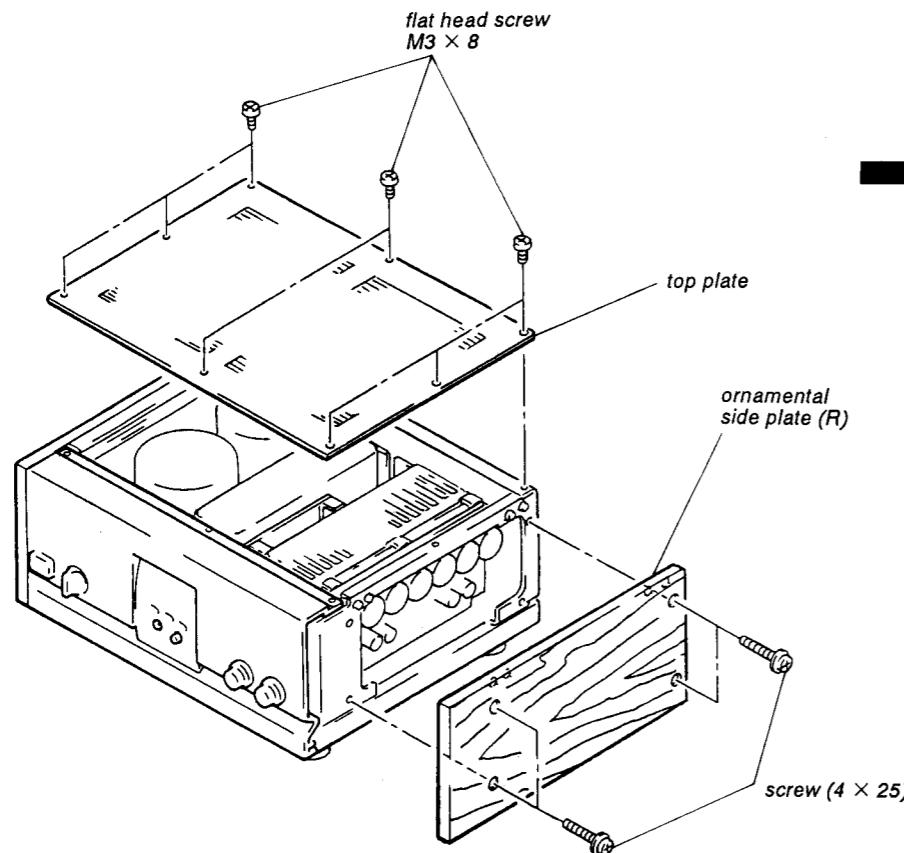
Connection as a monaural power amplifier
Connexion comme amplificateur de puissance monoaural
Conexión como amplificador de potencia monoaural
Conexão como amplificador de potência monofônico



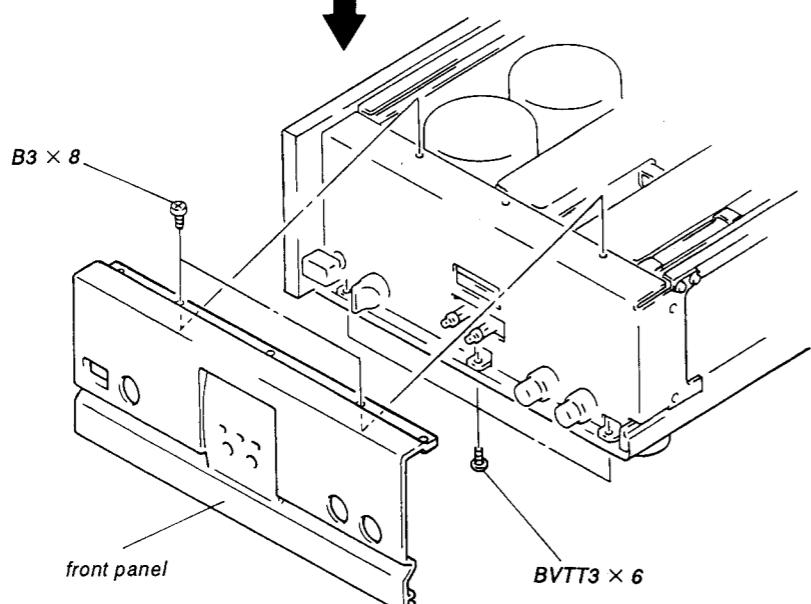
SECTION 2 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

TOP PLATE AND ORNAMENTAL SIDE PLATE (R) REMOVAL

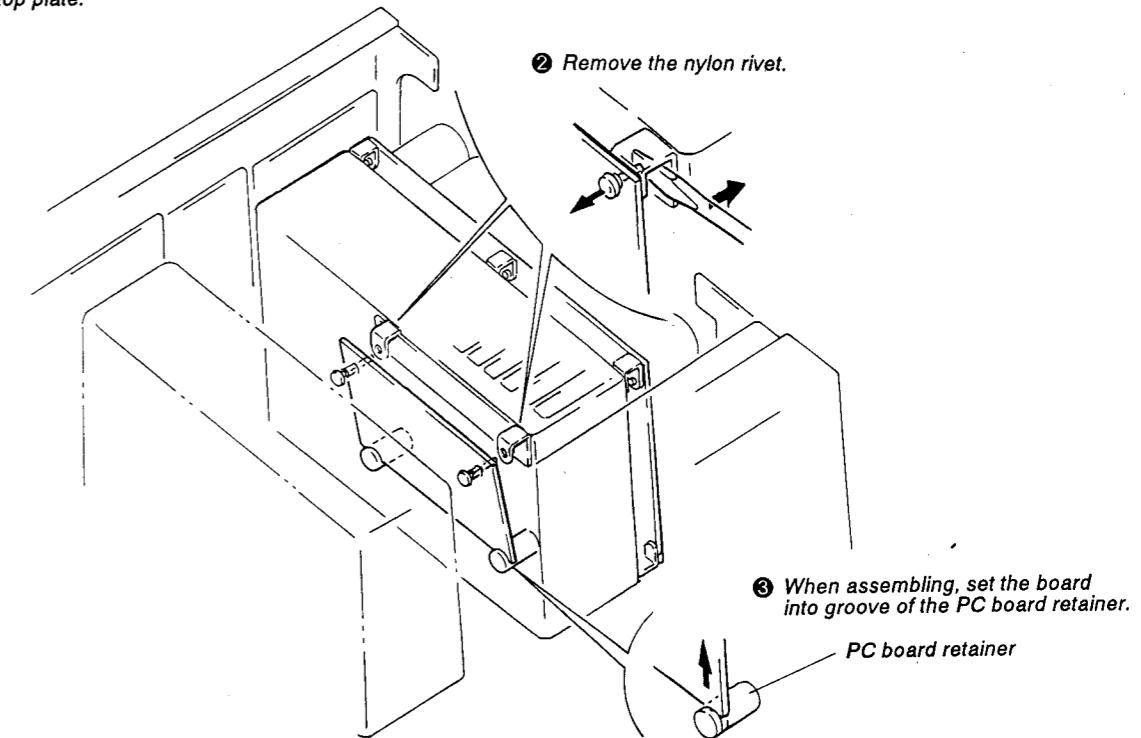


FRONT PANEL REMOVAL



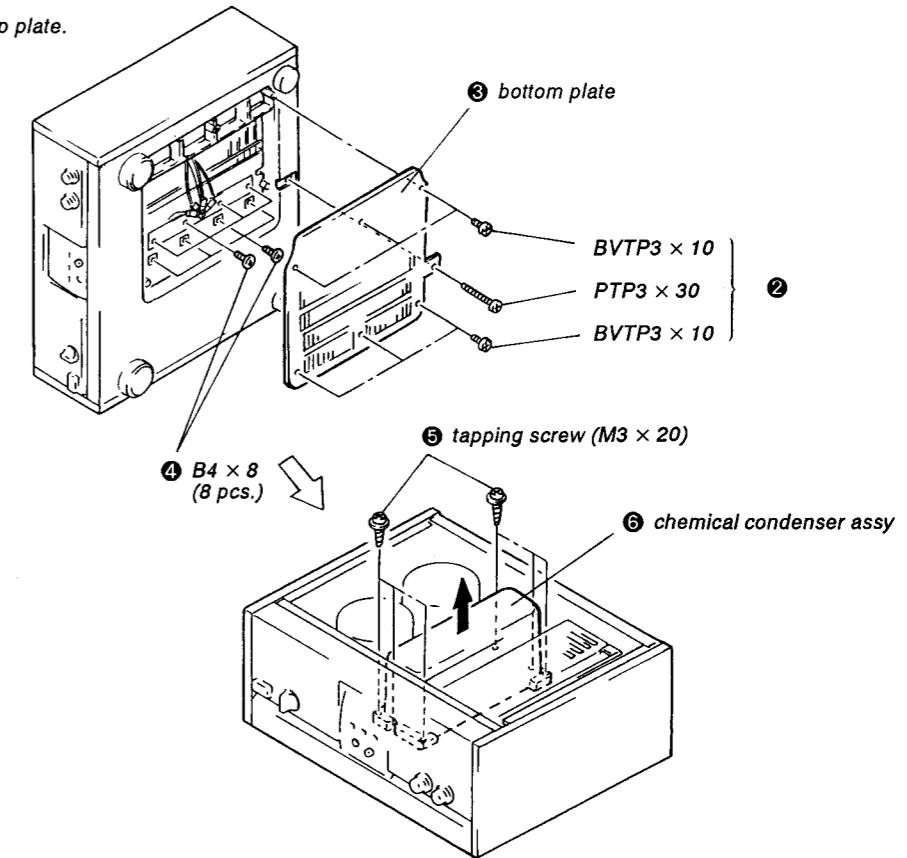
PROTECTOR BOARD REMOVAL

① Remove the top plate.



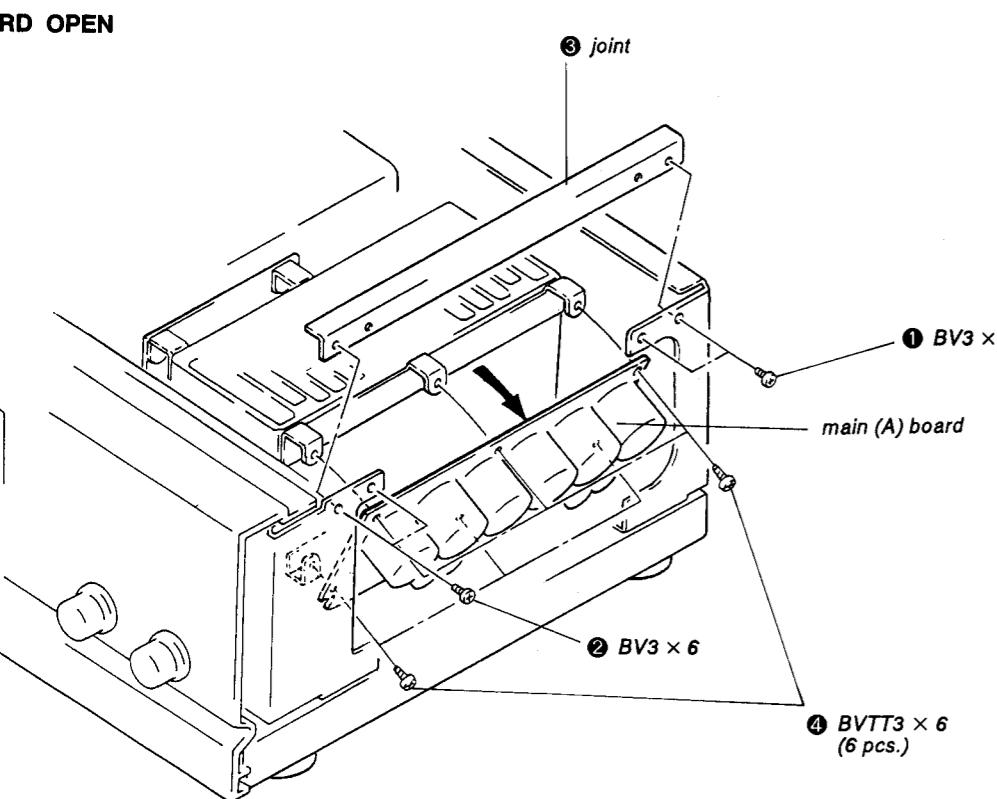
CHEMICAL CONDENSER ASSY REMOVAL

① Remove the top plate.

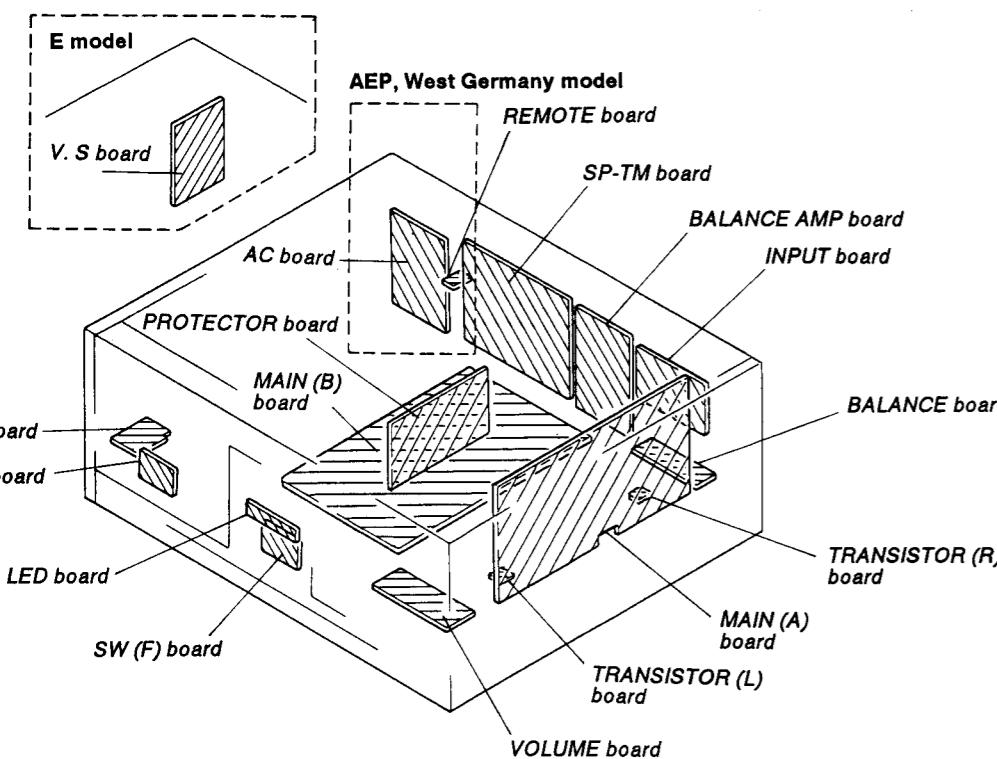


SECTION 3 ELECTRICAL ADJUSTMENTS

SECTION 4 DIAGRAMS



RDS LOCATION

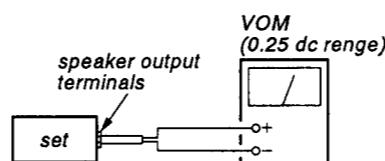


Note: Adjustment should be performed 5 minutes later, after the power switch is on.

Offset Adjustment

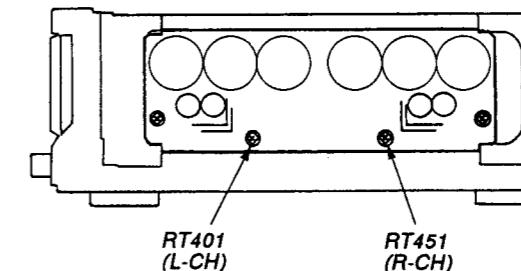
Setting:
OPERATION switch: STEREO
Input signal: No signal input

Procedure:



Adjust RT401 (L-CH) and RT451 (R-CH) for 0 V reading on the VOM.

Adjustment Location: main (A) board



Bias Current Adjustment

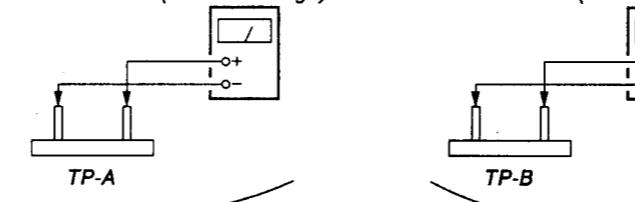
Setting:
OPERATION switch: STEREO
Input signal: No signal input

Procedure:

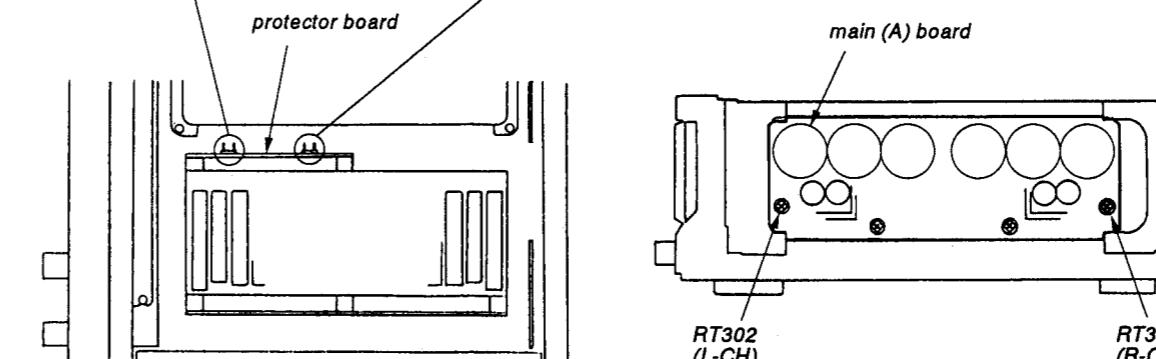
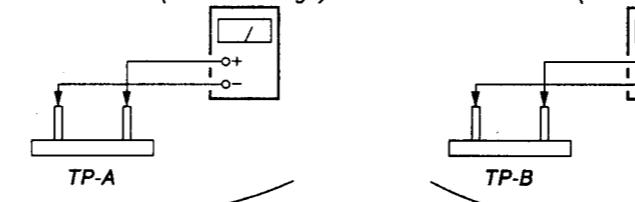
Adjust RT302 (L-CH) and RT352 (R-CH) so that VOM readings of TP-A (L-CH), TP-B (R-CH) become 15 mV.

Adjustment Location: main (A) board and protector board

- L-CH - VOM (0.25 V dc range)



- R-CH - VOM (0.25 V dc range)



4-1. SEMICONDUCTOR LEAD LAYOUTS

M5238L	2SA1383-Q 2SC3514-Q	CTU-36R
M5F78M15	2SD774-34	CTU-36S
M5F79M15	2SK246-GR2	S1VB40
μ PA68HA-M	10E2N HZ3ALL	SV04 SEL1210W
μ PC1237HA	2SA988-F	1SS120 HZS6C3L UZL-11L1
2SA995	SEL2210-5-C	SEL2510C
2SA1015-GR 2SC1815-BL 2SC1815-Y 2SC1845-EA	CTU-22R	CTU-22S
2SA1380-O 2SC3423-O		

4-2. PRINTED WIRING BOARDS

• See page 11 for Semiconductor Lead Layouts.

• See page 9 for Circuit Boards Location.

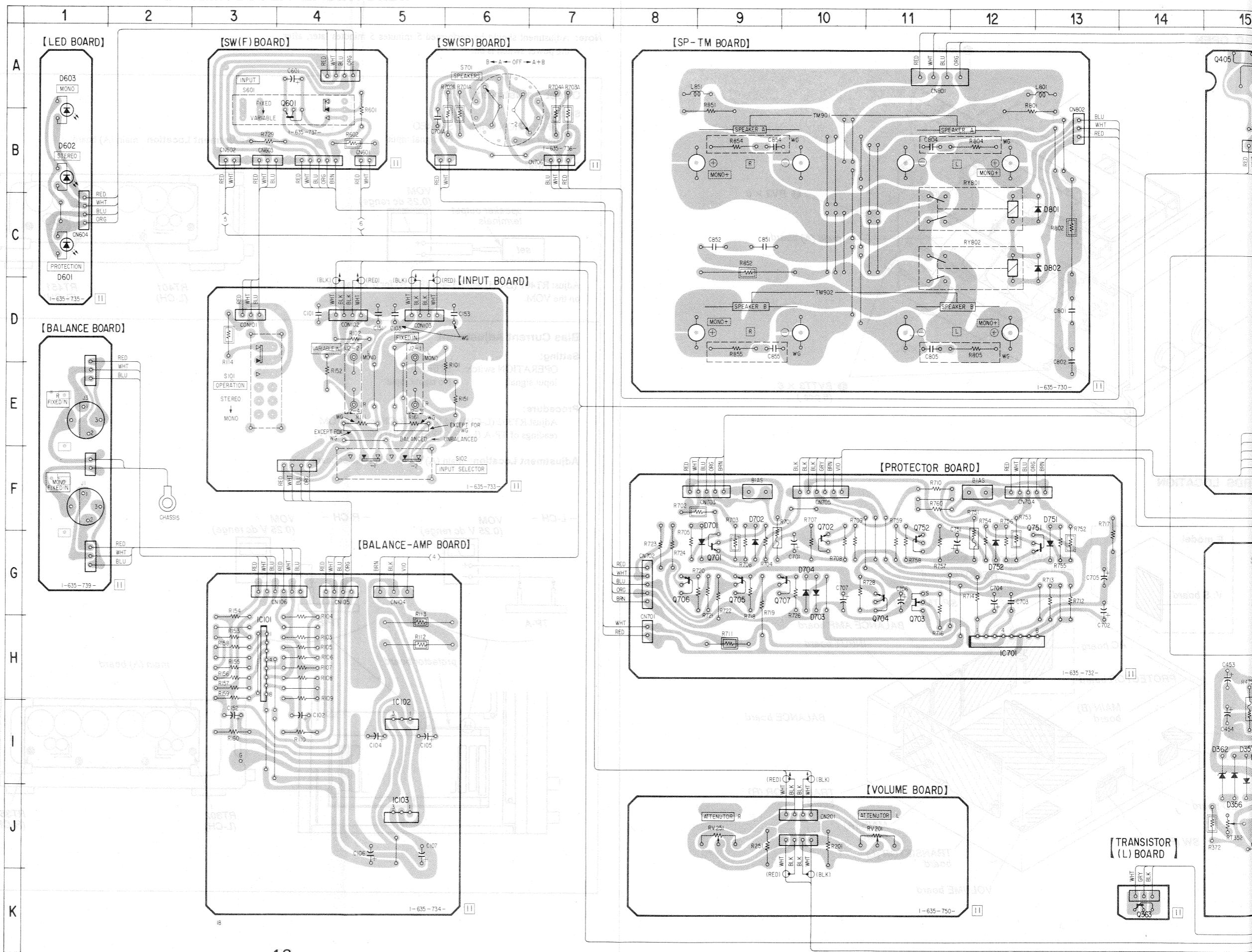
Note on Printed Wiring Board:

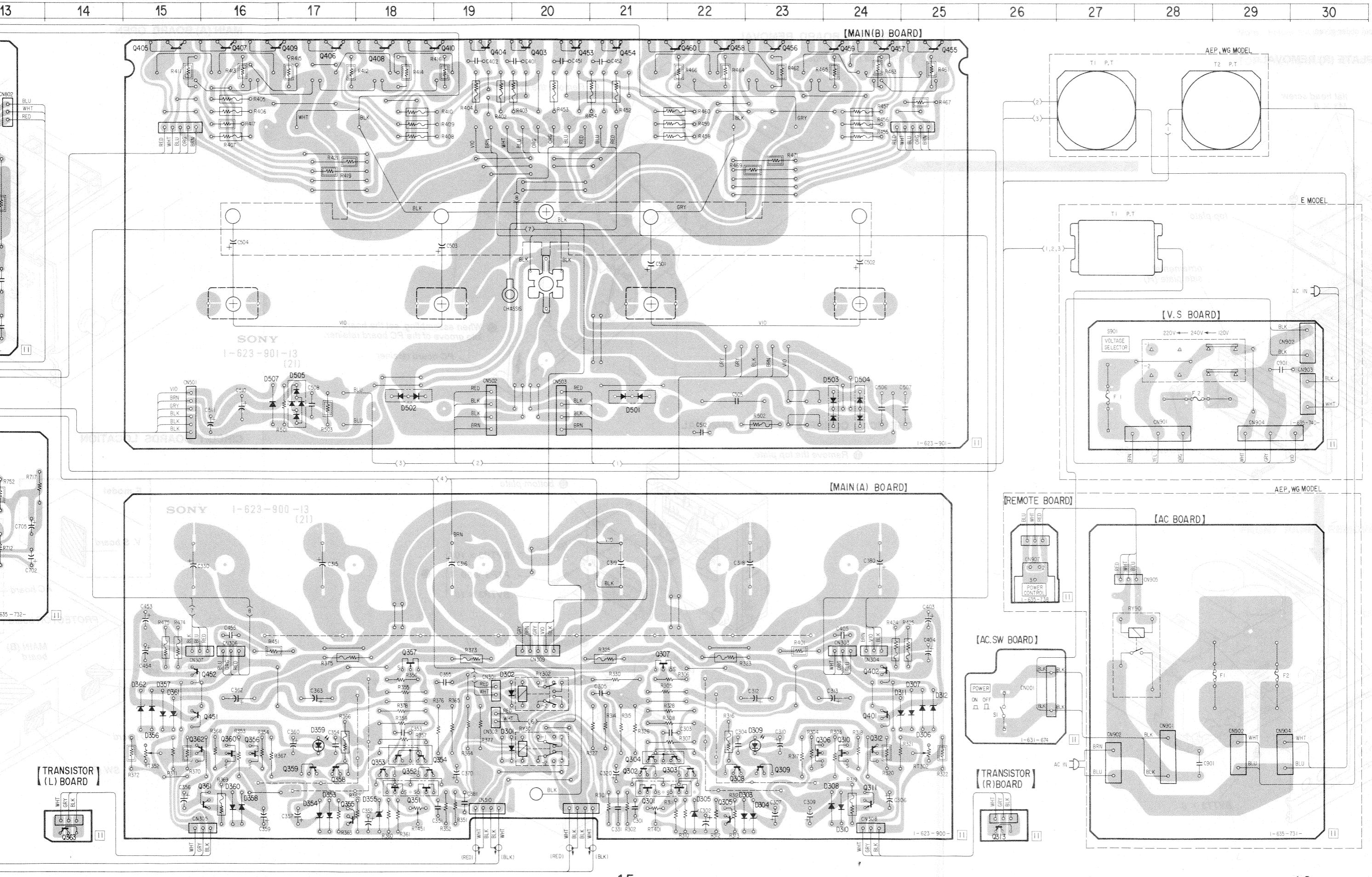
Note:

- parts extracted from the component side.
- Pattern on the side which is seen.
- WG : West Germany

• Semiconductor Location

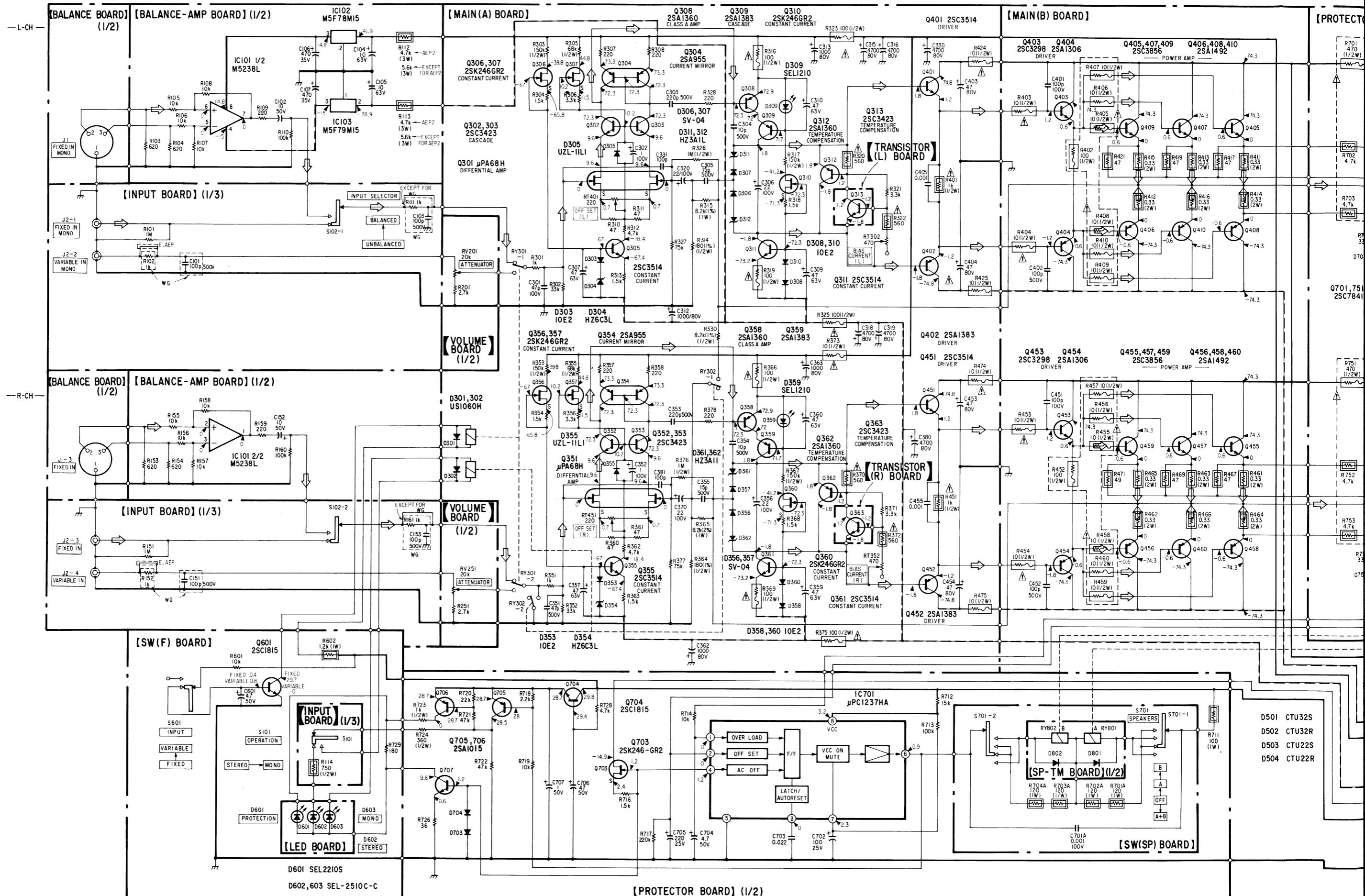
Ref. No.	Location	Ref. No.	Location
D301	J-19	Q306	J-23
D302	I-19	Q307	I-21
D303	K-22	Q308	J-22
D304	K-23	Q309	J-23
D305	K-22	Q310	J-24
D306	I-25	Q311	K-24
D307	I-25	Q312	J-24
D308	K-24	Q313	K-26
D309	J-23	Q351	J-18
D310	K-24	Q352	J-18
D311	I-24	Q353	J-18
D312	I-25	Q354	J-18
D353	K-17	Q355	K-17
D354	K-17	Q356	J-16
D355	K-18	Q357	I-18
D356	I-15	Q358	J-17
D357	I-15	Q359	J-17
D358	K-16	Q360	J-16
D359	J-17	Q361	K-15
D360	K-16	Q362	J-15
D361	I-15	Q363	K-14
D362	I-15	Q401	J-24
D501	E-21	Q402	I-24
D502	E-18	Q403	A-20
D503	F-24	Q404	A-19
D504	F-24	Q405	A-15
D505	E-17	Q406	A-17
D507	E-16	Q407	A-16
D601	C-1	Q408	A-18
D602	B-1	Q409	A-16
D603	A-1	Q410	A-18
D701	G-9	Q451	J-15
D702	G-9	Q452	I-15
D703	G-10	Q453	A-20
D704	G-10	Q454	A-21
D751	G-13	Q455	A-25
D752	G-12	Q456	A-23
D801	C-13	Q457	A-24
D802	C-13	Q458	A-22
IC101	H-3	Q459	A-24
IC102	I-5	Q460	A-22
IC103	J-5	Q601	B-4
IC152	J-5	Q701	G-9
IC701	H-12	Q703	G-10
Q301	J-21	Q704	G-11
Q302	J-21	Q705	G-9
Q303	J-22	Q706	G-8
Q304	J-21	Q707	G-9
Q305	K-22	Q751	G-12
		Q752	G-11



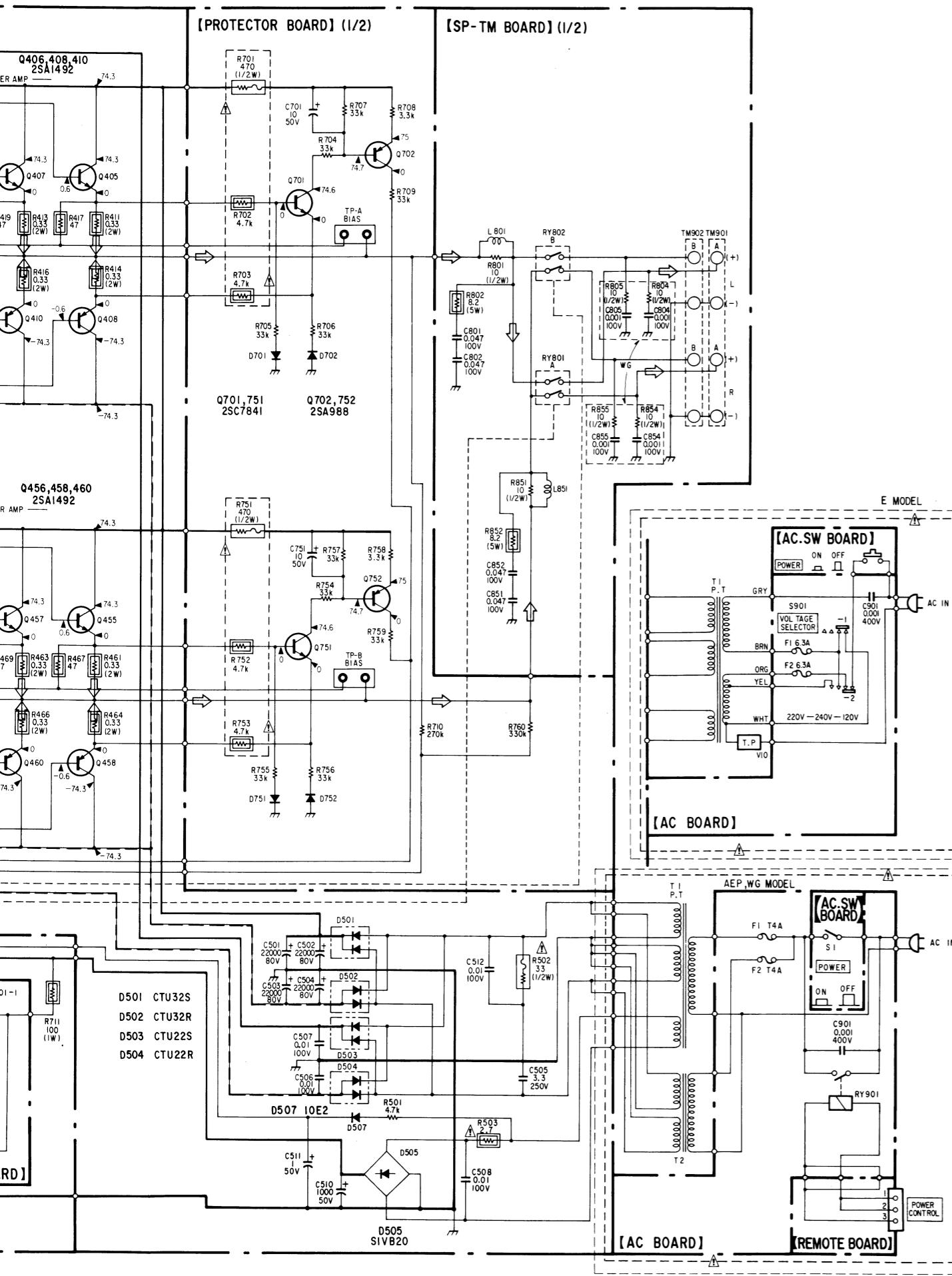


4-3. SCHEMATIC DIAGRAM

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | 16



15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27



Note on Schematic Diagram:

Note:

- Note:**

 - All capacitors are in μF unless otherwise noted. pF : $\mu\mu\text{F}$ 50 WV or less are not indicated except for electrolytics and tantalums.
 - All resistors are in Ω and $1/4$ W or less unless otherwise specified.
 - % : indicates tolerance.
 -  : nonflammable resistor.
 -  : fusible resistor.

Note: The components identified by mark  or dotted line with mark  are critical for safety.
Replace only with part number specified.

- : B + Line.
 - : B - Line.
 - : adjustment for repair.
 - Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
 - Voltages are taken with a VOM ($10 \text{ M}\Omega/\text{V}$).
Voltage variations may be noted due to normal production tolerances.
 - Signal path.
 : Signal path
 - WG : West Germany

SECTION 5

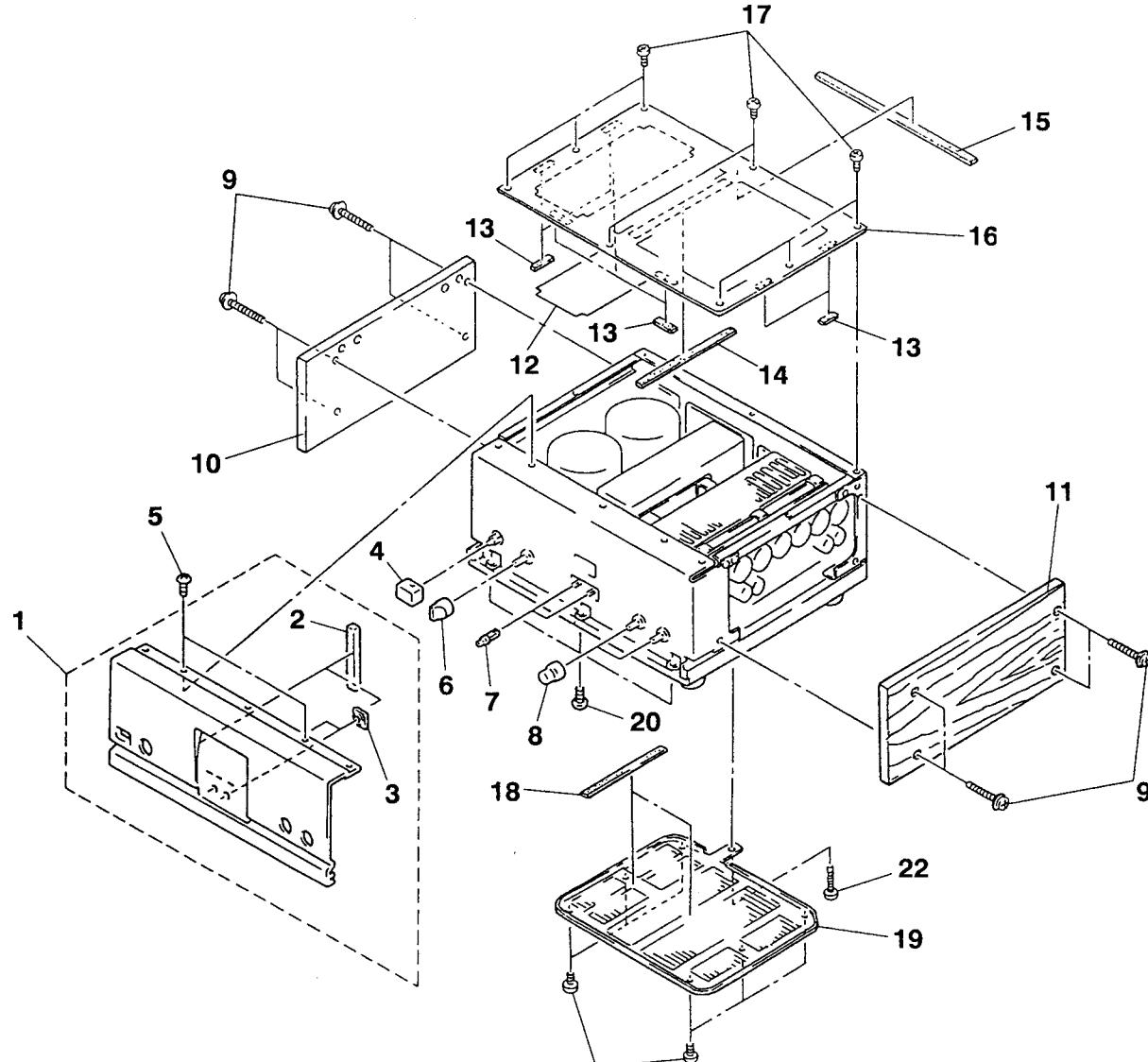
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked “★” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

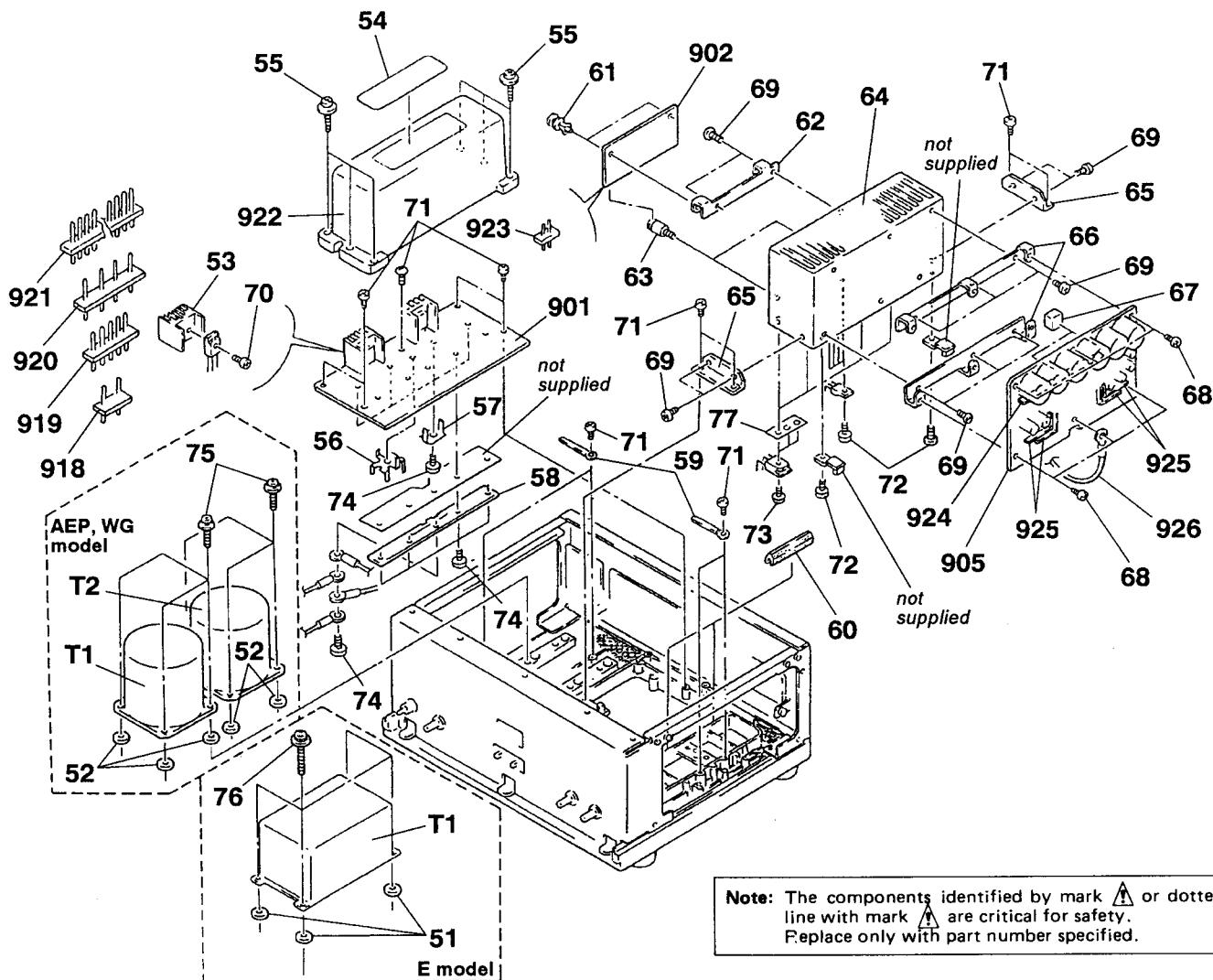
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
Example:
(RED) ... KNOB, BALANCE (WHITE)
↑ ↑
Cabinet's Color Parts Color
- WG : West Germany

The components identified by mark  or dotted line with mark  are critical for safety.
Replace only with part number specified.

(1) CABINET SECTION

No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	A-4323-659-A	PANEL ASSY, FRONT		12	4-887-298-00	(AEP2)...PLATE, SHIELD	
2	*4-922-258-01	CUSHION		13	*4-921-410-01	CUSHION	
3	4-931-928-01	ESCUTCHEON (C), KNOB		14	*4-916-782-41	DAMPER	
4	4-942-032-01	KNOB (POWER)		15	4-921-411-11	CUSHION	
5	7-682-548-09	SCREW +B 3X8		16	4-921-434-21	PLATE, TOP	
6	4-933-031-01	KNOB		17	4-921-439-01	SCREW (M3X8), FLAT HEAD	
7	4-931-926-01	BUTTON (B)		18	*4-916-782-21	DAMPER	
8	4-933-032-01	KNOB		19	*4-921-428-01	PLATE, BOTTOM	
9	4-885-979-11	SCREW (4X25)		20	7-682-547-09	SCREW +BVTT 3X6 (S)	
10	X-4933-006-1	(AEP,E)...PANEL (L) ASSY, SIDE		21	7-685-647-79	SCREW +BVTP 3X10 TYPE2 SLIT	
	X-4933-008-1	(WG).....PANEL (L) ASSY, SIDE		22	7-685-153-19	SCREW +P 3X30 TYPE2 SLIT	
11	X-4933-007-1	(AEP,E)...PANEL (R) ASSY, SIDE					
	X-4933-009-1	(WG).....PANEL (R) ASSY, SIDE					

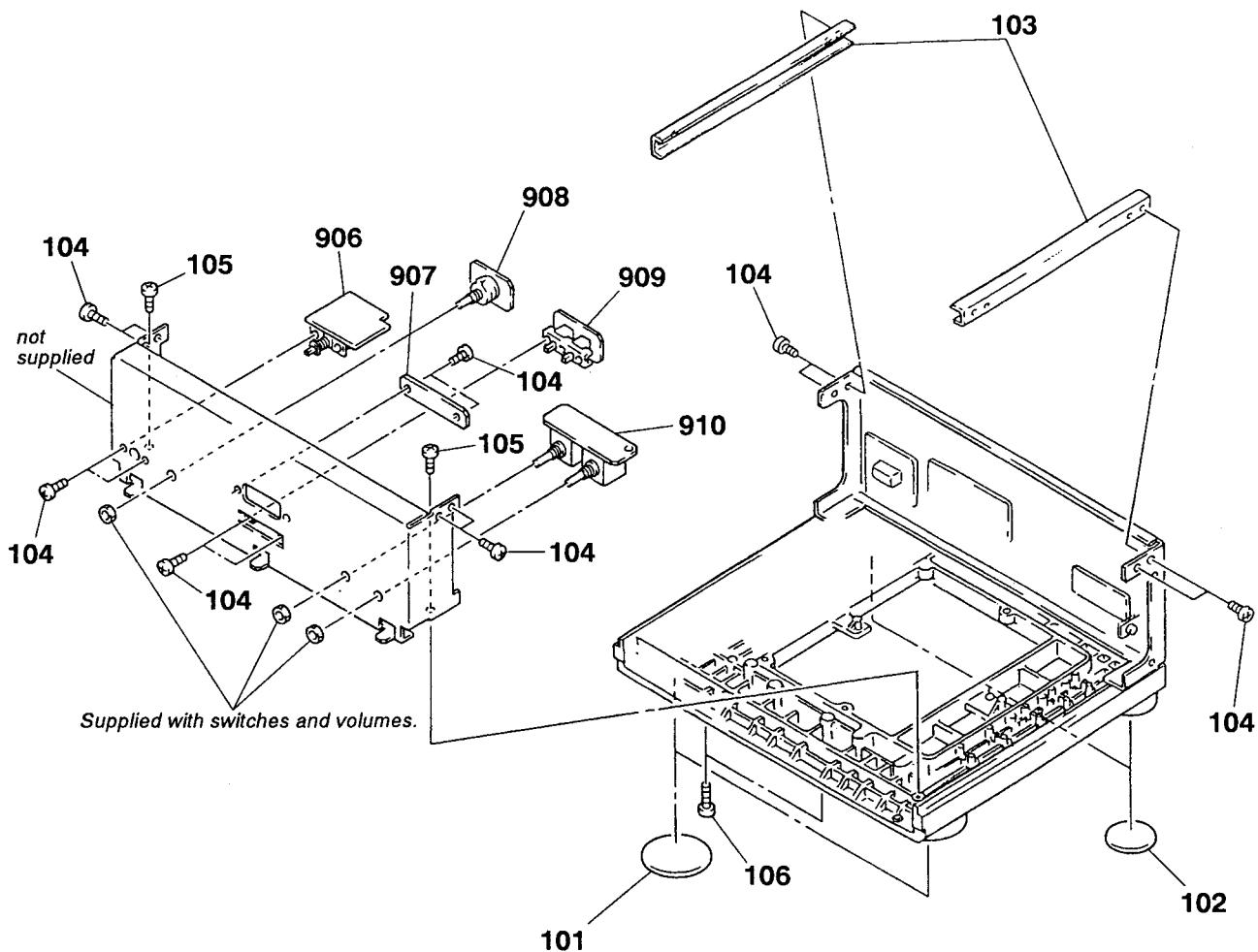
(2) MAIN CHASSIS SECTION



Note: The components identified by mark \triangle or dotted line with mark \triangle are critical for safety. Replace only with part number specified.

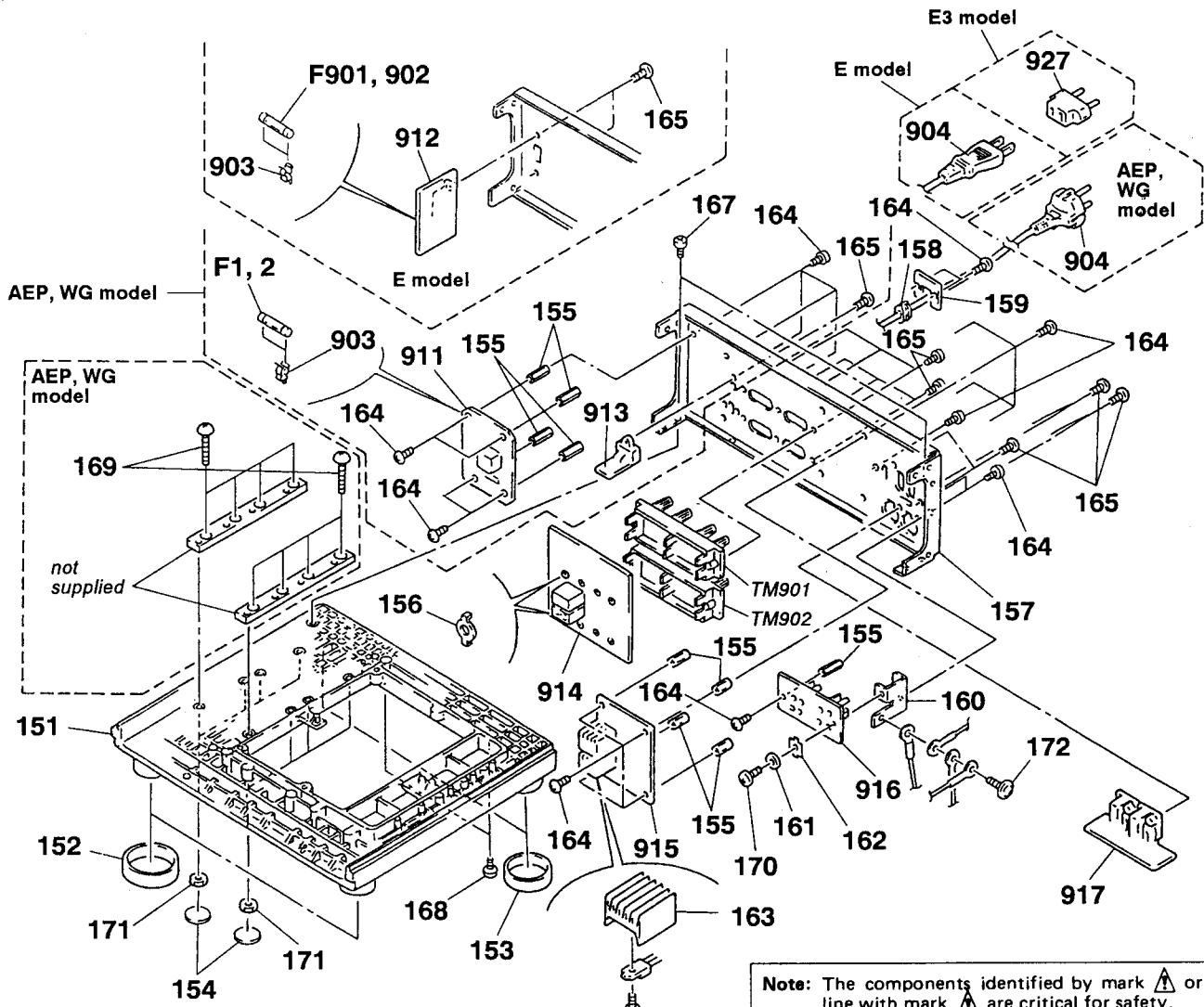
No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51	4-931-976-01	(E)...WASHER (BS)		76	7-682-669-09	(E)...SCREW +PSW 4X35	
52	4-916-751-01	(AEP)...WASHER		77	4-921-419-01	SHEET, INSULATING	
53	*4-921-402-01	HEAT SINK		901	*A-4341-090-A	(AEP1,E)...MOUNTED PCB, MAIN (B)	
54	*4-941-346-01	LABEL, CAPACITOR			*A-4341-101-A	(AEP2).....MOUNTED PCB, MAIN (B)	
55	4-921-437-01	SCREW (M3X20), TAPPING			*A-4341-108-A	(WG).....MOUNTED PCB, MAIN (B)	
56	*4-916-769-01	PLATE, GROUND, 4P		902	*A-4341-098-A	MOUNTED PCB, PROTECTOR	
57	*4-835-639-00	PLATE, GROUND		905	*A-4341-089-A	(AEP,E)...MOUNTED PCB, MAIN (A)	
58	*4-921-422-01	BAR, BUS			*A-4341-103-A	(WG).....MOUNTED PCB, MAIN (A)	
59	*4-908-882-01	CLAMP		918	1-535-135-11	BASE POST 14MM (10MM PITCH) 2P	
60	*4-921-413-01	RUBBER, DAMPING		919	*1-508-812-00	BASE POST (14MM) 5P	
61	4-812-134-00	RIVET NYLON, 3.5		920	*1-535-137-00	BASE POST 14MM (10MM PITCH)	
62	*4-921-424-21	BRACKET, PC BOARD		921	*1-508-817-00	14MM BASE POST	
63	*4-921-417-01	RETAINER, PC BOARD		922	\triangle -A-4323-662-A	CHEMICAL CONDENSER ASSY	
64	*4-921-430-01	HEAT SINK		923	*1-508-809-00	BASE POST (14MM) 2P	
65	*4-921-418-01	BRACKET, HEAT SINK		924	*3-311-617-01	REINFORCEMENT, PCB	
66	*4-921-424-01	BRACKET, PC BOARD		925	*1-560-242-21	BUS BAR 4P	
67	4-921-410-51	CUSHION		926	1-559-512-11	(AEP,WG)...CORD (WITH CONNECTOR)	
68	7-682-547-09	SCREW +BVTP 3X6 (S)		T1	\triangle .1-450-177-11	(E).....TRANSFORMER, POWER	
69	7-685-645-79	SCREW +BVTP 3X6 TYPE2 SLIT		T1	\triangle .1-450-179-11	(AEP1,WG)...TRANSFORMER, POWER	
70	7-682-549-09	SCREW +B 3X10		T1	\triangle .1-450-181-11	(AEP2).....TRANSFORMER, POWER	
71	7-685-647-79	SCREW +BVTP 3X10 TYPE2 SLIT		T2	\triangle .1-450-178-11	(AEP1,WG)...TRANSFORMER, POWER	
72	7-682-649-09	SCREW +PSW 3X10		T2	\triangle .1-450-180-11	(AEP2).....TRANSFORMER, POWER	
73	7-682-650-09	SCREW +PSW 3X12					
74	7-682-561-10	SCREW +B 4X8					
75	4-847-802-01	(WG)....SCREW					
	7-682-962-01	(AEP)...SCREW +PSW 4X10					

(3) FRONT CHASSIS SECTION



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
101	4-916-704-11	FOOT		906	*1-636-674-11	PC BOARD, AC.SW	
102	4-916-704-01	FOOT		907	*1-635-735-11	PC BOARD, LED	
103	*4-921-421-01	JOINT		908	*1-635-736-11	PC BOARD, SW (SP)	
104	7-682-547-09	SCREW +BVTT 3X6 (S)		909	*1-635-737-11	PC BOARD, SW (F)	
105	7-685-647-79	SCREW +BVTP 3X10 TYPE2 SLIT		910	*1-635-750-11	PC BOARD, VOLUME	
106	7-685-650-79	SCREW +BVTP 3X16 TYPE2 SLIT					

(4) BACK CHASSIS SECTION



Note: The components identified by mark  or dotted line with mark  are critical for safety.
Replace only with part number specified.

No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
151	X-4941-088-1	CHASSIS ASSY, MAIN	152,153	170	7-682-148-15	SCREW, TR	
152	4-923-882-02	RING (LARGE-16), ORNAMENTAL, FOOT		171	7-684-024-04	N 4, TYPE 2	
153	4-923-883-02	RING (SMALL-14), ORNAMENTAL, FOOT		172	7-685-647-71	SCREW +BVTP 3X10	
154	*4-908-892-01	SPACER		903	A1-533-183-11	HOLDER, FUSE	
155	*4-876-607-21	COLLAR (E), PLATE, JACK					
156	*4-843-416-11	PLATE, FIXED, CAP		904	A1-559-297-31	(E).....CORD, POWER	
					A1-575-953-11	(AEP,WG)...CORD, POWER	
157	*4-933-030-01	(AEP,WG)...PANEL, BACK		911	*1-635-731-11	(AEP,WG)...PC BOARD, AC	
	*4-933-030-11	(E).....PANEL, BACK		912	*1-635-740-11	(E)...PC BOARD, V.S	
158	2-352-626-01	BUSHING, CORD		913	*1-635-738-11	(AEP,WG)...PC BOARD, REMOTE	
159	*4-923-873-01	BRACKET, CORD STOPPER		914	*1-635-730-11	PC BOARD, SP-TM	
160	*4-921-416-01	BRACKET		915	*1-635-734-11	PC BOARD, BALANCE-AMP	
161	4-908-961-11	WASHER		916	*1-635-733-11	PC BOARD, INPUT	
162	*4-835-639-00	PLATE, GROUND		917	*1-635-739-11	PC BOARD, BALANCE	
163	*4-921-402-01	HEAT SINK		927	A1-569-007-11	(E3)...ADAPTOR, CONVERSION 2P	
164	7-682-547-09	SCREW +BVTT 3X6 (S)		F1	A1-532-350-00	(AEP,WG)...FUSE, TIME-LAG	
165	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S		F2	A1-532-350-00	(AEP,WG)...FUSE, TIME-LAG	
166	7-682-548-09	SCREW +B 3X8		F901	A1-532-325-00	(E).....FUSE, TIME-LAG	
167	7-685-647-79	SCREW +BVTP 3X10 TYPE2 SLIT		F902	A1-532-325-00	(E).....FUSE, TIME-LAG	
168	7-685-650-79	SCREW +BVTP 3X16 TYPE2 SLIT		TM901	1-537-102-11	TERMINAL BOARD (SP)	
169	7-682-668-09	(AEP,WG)...SCREW +PS 4X30		TM902	1-537-102-11	TERMINAL BOARD (SP)	

SECTION 6

ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked “★” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:MF: μ F, PF: $\mu\mu$ F.**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

- WG : West Germany

SEMICONDUCTORS

In each case, U: μ , for example:
 UA...: μ A..., UPA...: μ PA...,
 UPC...: μ PC, UPD...: μ PD...

Ref.No.	Part No.	Description			
901	*A-4341-090-A	(AEP1,E)...	MAINTED PCB, MAIN (B)		
	*A-4341-101-A	(AEP2).....	MAINTED PCB, MAIN (B)		
	*A-4341-108-A	(WG).....	MAINTED PCB, MAIN (B)		
902	*A-4341-098-A	▲ MOUNTED PCB, PROTECTOR			
903	▲ 1-533-183-11	HOLDER, FUSE			
904	▲.1-559-297-31	(E).....CORD, POWER			
	▲.1-575-953-11	(AEP,WG)...CORD, POWER			
905	*A-4341-089-A	(AEP,E)...	MAINTED PCB, MAIN (A)		
	*A-4341-103-A	(WG).....	MAINTED PCB, MAIN (A)		
906	*1-636-674-11	PC BOARD, AC.SW			
907	*1-635-735-11	PC BOARD, LED			
908	*1-635-736-11	PC BOARD, SW (SP)			
909	*1-635-737-11	PC BOARD, SW (F)			
910	*1-635-750-11	PC BOARD, VOLUME			
911	*1-635-731-11	(AEP,WG)...PC BOARD, AC			
912	*1-635-740-11	(E)...PC BOARD, V.S			
913	*1-635-738-11	(AEP,WG)...PC BOARD, REMOTE			
914	*1-635-730-11	PC BOARD, SP-TM			
915	*1-635-734-11	PC BOARD, BALANCE-AMP			
916	*1-635-733-11	PC BOARD, INPUT			
917	*1-635-739-11	PC BOARD, BALANCE			
918	1-535-135-11	BASE POST 14MM (10MM PITCH) 2P			
919	*1-508-812-00	BASE POST (14MM) 5P			
920	*1-535-137-00	BASE POST 14MM (10MM PITCH)			
921	*1-508-817-00	14MM BASE POST			
922	▲.A-4323-662-A	CHEMICAL CONDENSER ASSY			
923	*1-508-809-00	BASE POST (14MM) 2P			
924	*3-311-617-01	REINFORCEMENT, PCB			
925	*1-560-242-21	BUS BAR 4P			
926	1-559-512-11	(AEP,WG)...CORD (WITH CONNECTOR)			
927	▲.1-569-007-11	(E3)...ADAPTOR, CONVERSION 2P			
C101	1-107-169-00	(WG)...MICA	100PF	5%	500V
C102	1-126-059-11	ELECT	10MF	20%	50V
C103	1-107-169-00	(WG)...MICA	100PF	5%	500V
C104	1-124-915-11	ELECT	10MF	20%	63V
C105	1-124-915-11	ELECT	10MF	20%	63V
C106	1-124-713-11	ELECT	470MF	20%	35V
C107	1-124-713-11	ELECT	470MF	20%	35V
C151	1-107-169-00	(WG)...MICA	100PF	5%	500V
C152	1-126-059-11	ELECT	10MF	20%	50V
C153	1-107-169-00	(WG)...MICA	100PF	5%	500V
C301	1-107-163-00	MICA	47PF	5%	500V
C302	1-123-380-00	ELECT	1MF	20%	100V

Ref.No.	Part No.	Description			
C303	1-109-621-00	MICA	220PF	5%	500V
C304	1-107-202-00	MICA	10PF	0.5PF	500V
C305	1-107-206-00	MICA	15PF	5%	500V
C306	1-124-748-11	ELECT	22MF	20%	100V
C307	1-124-918-11	ELECT	47MF	20%	63V
C309	1-124-918-11	ELECT	47MF	20%	63V
C310	1-124-918-11	ELECT	47MF	20%	63V
C312	1-126-370-11	ELECT	1000MF	20%	80V
C313	1-126-370-11	ELECT	1000MF	20%	80V
C315	1-125-488-11	ELECT(BLOCK)	4700MF	20%	80V
C316	1-125-488-11	ELECT(BLOCK)	4700MF	20%	80V
C318	1-125-488-11	ELECT(BLOCK)	4700MF	20%	80V
C319	1-125-488-11	ELECT(BLOCK)	4700MF	20%	80V
C320	1-124-748-11	ELECT	22MF	20%	100V
C330	1-125-488-11	ELECT(BLOCK)	4700MF	20%	80V
C331	1-162-282-11	(WG)...CERAMIC	100PF	10%	50V
C351	1-107-163-00	MICA	47PF	5%	500V
C352	1-123-380-00	ELECT	1MF	20%	100V
C353	1-109-621-00	MICA	220PF	5%	500V
C354	1-107-202-00	MICA	10PF	0.5PF	500V
C355	1-107-206-00	MICA	15PF	5%	500V
C356	1-124-748-11	ELECT	22MF	20%	100V
C357	1-124-918-11	ELECT	47MF	20%	63V
C359	1-124-918-11	ELECT	47MF	20%	63V
C360	1-124-918-11	ELECT	47MF	20%	63V
C362	1-126-370-11	ELECT	1000MF	20%	80V
C363	1-126-370-11	ELECT	1000MF	20%	80V
C370	1-124-748-11	ELECT	22MF	20%	100V
C380	1-125-488-11	ELECT(BLOCK)	4700MF	20%	80V
C381	1-162-282-11	(WG)...CERAMIC	100PF	10%	50V
C401	1-107-169-00	MICA	100PF	5%	500V
C402	1-107-169-00	MICA	100PF	5%	500V
C403	1-126-359-11	ELECT	47MF	20%	80V
C404	1-126-359-11	ELECT	47MF	20%	80V
C405	1-130-471-00	MYLAR	0.001MF	5%	50V
C451	1-107-169-00	MICA	100PF	5%	500V
C452	1-107-169-00	MICA	100PF	5%	500V
C453	1-126-359-11	ELECT	47MF	20%	80V
C454	1-126-359-11	ELECT	47MF	20%	80V
C455	1-130-471-00	MYLAR	0.001MF	5%	50V
C505	1-130-801-11	FILM	3.3MF	10%	250V
C506	1-130-955-00	FILM	0.01MF	10%	100V
C507	1-130-955-00	FILM	0.01MF	10%	100V
C508	1-130-955-00	FILM	0.01MF	10%	100V
C510	1-124-637-11	ELECT	1000MF	20%	50V

Note: The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified

Ref.No.	Part No.	Description		Ref.No.	Part No.	Description
C511	1-124-791-11	ELECT	1MF	20%	50V	CN904 *1-564-321-00 (AEP,WG)...PIN, CONNECTOR 2P
C512	1-130-955-00	FILM	0.01MF	10%	100V	CN904 *1-564-687-11 (E).....PIN, CONNECTOR 3P
C601	1-124-927-11	ELECT	4.7MF	20%	50V	CN905 *1-564-506-11 (AEP,WG)...PLUG, CONNECTOR 3P
C701A	1-106-343-00	MYLAR	0.001MF	10%	100V	CN907 *1-569-625-11 (AEP,WG)...SOCKET, CONNECTOR 3P
C701	1-123-875-11	ELECT	10MF	20%	50V	D301 8-719-912-20 DIODE 1SS120
C702	1-124-478-11	ELECT	100MF	20%	25V	D302 8-719-912-20 DIODE 1SS120
C703	1-136-157-00	FILM	0.022MF	5%	50V	D303 8-719-200-77 DIODE 10E2N
C704	1-124-927-11	ELECT	4.7MF	20%	50V	D304 8-719-933-41 DIODE HZS6C3L
C705	1-126-024-11	ELECT	220MF	20%	25V	D305 8-719-001-33 DIODE UZL-11L1
C706	1-124-910-11	ELECT	47MF	20%	50V	D306 8-719-300-04 DIODE SV-04
C707	1-124-791-11	ELECT	1MF	20%	50V	D307 8-719-300-04 DIODE SV-04
C751	1-123-875-11	ELECT	10MF	20%	50V	D308 8-719-200-77 DIODE 10E2N
C801	1-130-857-00	FILM	0.047MF	5%	100V	D309 8-719-303-13 DIODE SEL1210W
C802	1-130-857-00	FILM	0.047MF	5%	100V	D310 8-719-200-77 DIODE 10E2N
C804	1-106-343-00	(WG)...MYLAR	0.001MF	10%	100V	D311 8-719-942-31 DIODE HZ3ALL
C805	1-106-343-00	(WG)...MYLAR	0.001MF	10%	100V	D312 8-719-942-31 DIODE HZ3ALL
C851	1-130-857-00	FILM	0.047MF	5%	100V	D353 8-719-200-77 DIODE 10E2N
C852	1-130-857-00	FILM	0.047MF	5%	100V	D354 8-719-933-41 DIODE HZS6C3L
C854	1-106-343-00	(WG)...MYLAR	0.001MF	10%	100V	D355 8-719-001-33 DIODE UZL-11L1
C855	1-106-343-00	(WG)...MYLAR	0.001MF	10%	100V	D356 8-719-300-04 DIODE SV-04
C901 A.1-161-741-00	CERAMIC		0.001MF	10%	400V	D357 8-719-300-04 DIODE SV-04
CN001	*1-564-321-00	PIN, CONNECTOR 2P				D358 8-719-200-77 DIODE 10E2N
CN101	*1-564-518-11	PLUG, CONNECTOR 3P				D359 8-719-303-13 DIODE SEL1210W
CN102	*1-564-519-11	PLUG, CONNECTOR 4P				D360 8-719-200-77 DIODE 10E2N
CN103	*1-564-519-11	PLUG, CONNECTOR 4P				D361 8-719-942-31 DIODE HZ3ALL
CN104	*1-564-104-00	PIN, CONNECTOR 3P				D362 8-719-942-31 DIODE HZ3ALL
CN105	*1-564-507-11	PLUG, CONNECTOR 4P				D501 8-719-300-49 DIODE CTU-36S
CN106	*1-564-509-11	PLUG, CONNECTOR 6P				D502 8-719-300-48 DIODE CTU-36R
CN201	*1-564-507-11	PLUG, CONNECTOR 4P				D503 8-719-300-27 DIODE CTU-22S
CN301	*1-564-505-11	PLUG, CONNECTOR 2P				D504 8-719-300-25 DIODE CTU-22R
CN302	*1-564-505-11	PLUG, CONNECTOR 2P				D505 8-719-511-40 DIODE S1VB40
CN303	*1-564-506-11	PLUG, CONNECTOR 3P				D507 8-719-200-77 DIODE 10E2N
CN304	*1-564-506-11	PLUG, CONNECTOR 3P				D601 8-719-301-38 DIODE SEL2210S-C
CN305	*1-564-506-11	PLUG, CONNECTOR 3P				D602 8-719-303-00 DIODE SEL2510C
CN306	*1-564-506-11	PLUG, CONNECTOR 3P				D603 8-719-303-00 DIODE SEL2510C
CN307	*1-564-506-11	PLUG, CONNECTOR 3P				D701 8-719-912-20 DIODE 1SS120
CN308	*1-564-506-11	PLUG, CONNECTOR 3P				D702 8-719-912-20 DIODE 1SS120
CN309	*1-564-508-11	PLUG, CONNECTOR 5P				D703 8-719-912-20 DIODE 1SS120
CN310	*1-564-507-11	PLUG, CONNECTOR 4P				D704 8-719-912-20 DIODE 1SS120
CN501	*1-564-509-11	PLUG, CONNECTOR 6P				D751 8-719-912-20 DIODE 1SS120
CN502	*1-564-241-00	PIN, CONNECTOR 4P				D752 8-719-912-20 DIODE 1SS120
CN503	*1-564-241-00	PIN, CONNECTOR 4P				D801 8-719-912-20 DIODE 1SS120
CN601	*1-564-505-11	PLUG, CONNECTOR 2P				D802 8-719-912-20 DIODE 1SS120
CN602	*1-564-505-11	PLUG, CONNECTOR 2P				F1 A.1-532-350-00 (AEP,WG)...FUSE, TIME-LAG
CN603	*1-564-506-11	PLUG, CONNECTOR 3P				F2 A.1-532-350-00 (AEP,WG)...FUSE, TIME-LAG
CN604	*1-564-507-11	PLUG, CONNECTOR 4P				F901 A.1-532-325-00 (E).....FUSE, TIME-LAG
CN701	*1-564-505-11	PLUG, CONNECTOR 2P				F902 A.1-532-325-00 (E).....FUSE, TIME-LAG
CN702	*1-564-508-11	PLUG, CONNECTOR 5P				IC101 8-759-604-28 IC M5238L
CN703	*1-564-508-11	PLUG, CONNECTOR 5P				IC102 8-759-604-40 IC M5F78M15
CN704	*1-564-508-11	PLUG, CONNECTOR 5P				IC103 8-759-604-46 IC M5F79M15
CN705	*1-564-509-11	PLUG, CONNECTOR 6P				IC701 8-759-111-68 IC UPC1237HA
CN706	*1-564-506-11	PLUG, CONNECTOR 3P				J1 1-580-060-11 RECEPTACLE, CONNECTOR 3P (FIXED IN L)
CN801	*1-564-241-00	PIN, CONNECTOR 4P				J2 1-566-880-21 JACK, PIN 4P (FIXED IN/VARIABLE IN)
CN802	*1-564-506-11	PLUG, CONNECTOR 3P				J3 1-580-060-11 RECEPTACLE, CONNECTOR 3P (FIXED IN R)
CN901	*1-564-687-11	(E).....PIN, CONNECTOR 3P				L801 *1-422-009-13 COIL, AIR-CORE
CN901	*1-565-792-11	(AEP,WG)...PIN, CONNECTOR 2P				L851 *1-422-009-13 COIL, AIR-CORE
CN902	*1-564-321-00	PIN, CONNECTOR 2P				
CN903	*1-564-321-00	PIN, CONNECTOR 2P				

Note: The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
Q301	8-759-108-01	TRANSISTOR UPA68HA-M	R101	1-246-545-00	CARBON 1M 5% 1/4W
Q302	8-729-203-45	TRANSISTOR 2SC3423-0	R102	1-247-713-11	(WG)...CARBON 1K 5% 1/4W
Q303	8-729-203-45	TRANSISTOR 2SC3423-0	R103	1-249-547-11	CARBON 620 5% 1/4W
Q304	8-729-699-51	TRANSISTOR 2SA995	R104	1-249-547-11	CARBON 620 5% 1/4W
Q305	8-729-104-18	TRANSISTOR 2SC3514-Q	R105	1-247-725-11	CARBON 10K 5% 1/4W
Q306	8-729-201-56	TRANSISTOR 2SK246-GR2	R106	1-247-725-11	CARBON 10K 5% 1/4W
Q307	8-729-201-56	TRANSISTOR 2SK246-GR2	R107	1-247-725-11	CARBON 10K 5% 1/4W
Q308	8-729-209-17	TRANSISTOR 2SA1360-0	R108	1-247-725-11	CARBON 10K 5% 1/4W
Q309	8-729-104-91	TRANSISTOR 2SA1383-Q	R109	1-247-704-11	CARBON 220 5% 1/4W
Q310	8-729-201-56	TRANSISTOR 2SK246-GR2	R110	1-249-469-11	CARBON 100K 5% 1/4W
Q311	8-729-104-18	TRANSISTOR 2SC3514-Q	R111	1-247-713-11	(WG)...CARBON 1K 5% 1/4W
Q312	8-729-209-17	TRANSISTOR 2SA1360-0	R112	1-215-921-51	(AEP2)...METAL OXIDE 4.7K 5% 3W F
Q313	8-729-203-45	TRANSISTOR 2SC3423-0	R112	1-216-485-11	(EXCEPT AEP2) ...METAL OXIDE 5.6K 5% 3W F
Q351	8-759-108-01	TRANSISTOR UPA68HA-M	R113	1-215-921-51	(AEP2)...METAL OXIDE 4.7K 5% 3W F
Q352	8-729-203-45	TRANSISTOR 2SC3423-0	R113	1-216-485-11	(EXCEPT AEP2) ...METAL OXIDE 5.6K 5% 3W F
Q353	8-729-203-45	TRANSISTOR 2SC3423-0	R114	1-247-237-00	CARBON 750 5% 1/2W F
Q354	8-729-699-51	TRANSISTOR 2SA995	R151	1-246-545-00	CARBON 1M 5% 1/4W
Q355	8-729-104-18	TRANSISTOR 2SC3514-Q	R152	1-247-713-11	(WG)...CARBON 1K 5% 1/4W
Q356	8-729-201-56	TRANSISTOR 2SK246-GR2	R153	1-249-547-11	CARBON 620 5% 1/4W
Q357	8-729-201-56	TRANSISTOR 2SK246-GR2	R154	1-249-547-11	CARBON 620 5% 1/4W
Q358	8-729-209-17	TRANSISTOR 2SA1360-0	R155	1-247-725-11	CARBON 10K 5% 1/4W
Q359	8-729-104-91	TRANSISTOR 2SA1383-Q	R156	1-247-725-11	CARBON 10K 5% 1/4W
Q360	8-729-201-56	TRANSISTOR 2SK246-GR2	R157	1-247-725-11	CARBON 10K 5% 1/4W
Q361	8-729-104-18	TRANSISTOR 2SC3514-Q	R158	1-247-725-11	CARBON 10K 5% 1/4W
Q362	8-729-209-17	TRANSISTOR 2SA1360-0	R159	1-247-704-11	CARBON 220 5% 1/4W
Q363	8-729-203-45	TRANSISTOR 2SC3423-0	R160	1-249-469-11	CARBON 100K 5% 1/4W
Q401	8-729-104-18	TRANSISTOR 2SC3514-Q	R161	1-247-713-11	(WG)...CARBON 1K 5% 1/4W
Q402	8-729-104-91	TRANSISTOR 2SA1383-Q	R201	1-247-718-11	CARBON 2.7K 5% 1/4W
Q403	8-729-208-72	TRANSISTOR 2SC3298B-Y	R251	1-247-718-11	CARBON 2.7K 5% 1/4W
Q404	8-729-208-38	TRANSISTOR 2SA1306A-0	R301	1-247-713-11	CARBON 1K 5% 1/4W
Q405	8-729-303-89	TRANSISTOR 2SC3856-Y	R302	1-249-497-11	CARBON 33K 5% 1/4W
Q406	8-729-303-86	TRANSISTOR 2SA1492-Y	R303	1-249-725-11	CARBON 150K 5% 1/2W
Q407	8-729-303-89	TRANSISTOR 2SC3856-Y	R304	1-249-556-11	CARBON 1.5K 5% 1/4W
Q408	8-729-303-86	TRANSISTOR 2SA1492-Y	R305	1-249-717-11	CARBON 68K 5% 1/2W
Q409	8-729-303-89	TRANSISTOR 2SC3856-Y	R306	1-247-719-11	CARBON 3.3K 5% 1/4W
Q410	8-729-303-86	TRANSISTOR 2SA1492-Y	R307	1-247-704-11	CARBON 220 5% 1/4W
Q451	8-729-104-18	TRANSISTOR 2SC3514-Q	R308	1-247-704-11	CARBON 220 5% 1/4W
Q452	8-729-104-91	TRANSISTOR 2SA1383-Q	R310	1-249-520-11	CARBON 47 5% 1/4W
Q453	8-729-208-72	TRANSISTOR 2SC3298B-Y	R311	1-249-520-11	CARBON 47 5% 1/4W
Q454	8-729-208-38	TRANSISTOR 2SA1306A-0	R312	1-247-721-11	CARBON 4.7K 5% 1/4W
Q455	8-729-303-89	TRANSISTOR 2SC3856-Y	R313	1-249-556-11	CARBON 1.5K 5% 1/4W
Q456	8-729-303-86	TRANSISTOR 2SA1492-Y	R314	1-249-784-11	CARBON 180 1% 1/2W
Q457	8-729-303-89	TRANSISTOR 2SC3856-Y	R315	1-259-698-11	CARBON 8.2K 2% 1W
Q458	8-729-303-86	TRANSISTOR 2SA1492-Y	R316	Δ.1-219-022-11	FUSIBLE 100 5% 1/2W F
Q459	8-729-303-89	TRANSISTOR 2SC3856-Y	R317	1-249-725-11	CARBON 150K 5% 1/2W
Q460	8-729-303-86	TRANSISTOR 2SA1492-Y	R318	1-249-556-11	CARBON 1.5K 5% 1/4W
Q601	8-729-281-54	TRANSISTOR 2SC1815-BL	R319	Δ.1-219-022-11	FUSIBLE 100 5% 1/2W F
Q701	8-729-184-53	TRANSISTOR 2SC1845-EA	R320	Δ.1-247-710-11	CARBON 560 5% 1/4W F
Q702	8-729-108-14	TRANSISTOR 2SA988-F	R321	1-247-719-11	CARBON 3.3K 5% 1/4W
Q703	8-729-201-56	TRANSISTOR 2SK246-GR2	R322	Δ.1-247-710-11	CARBON 560 5% 1/4W F
Q704	8-729-281-52	TRANSISTOR 2SC1815-Y	R323	Δ.1-219-022-11	FUSIBLE 100 5% 1/2W F
Q705	8-729-201-53	TRANSISTOR 2SA1015GR	R325	Δ.1-219-022-11	FUSIBLE 100 5% 1/2W F
Q706	8-729-201-53	TRANSISTOR 2SA1015GR	R326	1-214-937-00	CARBON 1M 5% 1/2W
Q707	8-729-140-96	TRANSISTOR 2SD774-34	R327	1-249-597-11	CARBON 75K 5% 1/4W
Q751	8-729-184-53	TRANSISTOR 2SC1845-EA			
Q752	8-729-108-14	TRANSISTOR 2SA988-F			

Note: The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description							
R328	1-247-704-11	CARBON	220	5%	1/4W	R459 Δ .1-217-997-11	FUSIBLE	10	5%	1/2W	F	
R330	1-249-824-11	CARBON	8.2K	1%	1/2W	R460 Δ .1-217-997-11	FUSIBLE	10	5%	1/2W	F	
R351	1-247-713-11	CARBON	1K	5%	1/4W	R461	1-217-152-00	RES, METAL PLATE	0.33			
R352	1-249-497-11	CARBON	33K	5%	1/4W	R462	1-217-152-00	RES, METAL PLATE	0.33			
R353	1-249-725-11	CARBON	150K	5%	1/2W	R463	1-217-152-00	RES, METAL PLATE	0.33			
R354	1-249-556-11	CARBON	1.5K	5%	1/4W	R464	1-217-152-00	RES, METAL PLATE	0.33			
R355	1-249-717-11	CARBON	68K	5%	1/2W	R465	1-217-152-00	RES, METAL PLATE	0.33			
R356	1-247-719-11	CARBON	3.3K	5%	1/4W	R466	1-217-152-00	RES, METAL PLATE	0.33			
R357	1-247-704-11	CARBON	220	5%	1/4W	R467	1-247-696-11	CARBON	47	5%	1/4W	F
R358	1-247-704-11	CARBON	220	5%	1/4W	R469	1-247-696-11	CARBON	47	5%	1/4W	F
R360	1-249-520-11	CARBON	47	5%	1/4W	R471	1-247-696-11	CARBON	47	5%	1/4W	F
R361	1-249-520-11	CARBON	47	5%	1/4W	R474 Δ .1-217-997-11	FUSIBLE	10	5%	1/2W	F	
R362	1-247-721-11	CARBON	4.7K	5%	1/4W	R475 Δ .1-217-997-11	FUSIBLE	10	5%	1/2W	F	
R363	1-249-556-11	CARBON	1.5K	5%	1/4W	R501	1-247-721-11	CARBON	4.7K	5%	1/4W	F
R364	1-249-784-11	CARBON	180	1%	1/2W	R502 Δ .1-219-010-11	FUSIBLE	33	5%	1/2W	F	
R365	1-259-698-11	CARBON	8.2K	2%	1W	R503 Δ .1-249-452-11	CARBON	2.7	5%	1/4W	F	
R366	Δ .1-219-022-11	FUSIBLE	100	5%	1/2W	R601	1-247-725-11	CARBON	10K	5%	1/4W	F
R367	1-249-725-11	CARBON	150K	5%	1/2W	R602	1-216-433-00	METAL OXIDE	1.2K	5%	1W	F
R368	1-249-556-11	CARBON	1.5K	5%	1/4W	R701 Δ .1-212-998-00	FUSIBLE	470	5%	1/2W	F	
R369	Δ .1-219-022-11	FUSIBLE	100	5%	1/2W	R701A	1-216-427-00	METAL OXIDE	120	5%	1W	F
R370	Δ .1-247-710-11	CARBON	560	5%	1/4W	R702 Δ .1-247-721-11	CARBON	4.7K	5%	1/4W	F	
R371	1-247-719-11	CARBON	3.3K	5%	1/4W	R702A	1-216-427-00	METAL OXIDE	120	5%	1W	F
R372	Δ .1-247-710-11	CARBON	560	5%	1/4W	R703 Δ .1-247-721-11	CARBON	4.7K	5%	1/4W	F	
R373	Δ .1-219-022-11	FUSIBLE	100	5%	1/2W	R703A	1-216-427-00	METAL OXIDE	120	5%	1W	F
R375	Δ .1-219-022-11	FUSIBLE	100	5%	1/2W	R704	1-249-497-11	CARBON	33K	5%	1/4W	F
R376	1-214-937-00	CARBON	1M	5%	1/2W	R704A	1-216-427-00	METAL OXIDE	120	5%	1W	F
R377	1-249-597-11	CARBON	75K	5%	1/4W	R705	1-249-497-11	CARBON	33K	5%	1/4W	F
R378	1-247-704-11	CARBON	220	5%	1/4W	R706	1-249-497-11	CARBON	33K	5%	1/4W	F
R401	Δ .1-247-240-51	CARBON	1K	5%	1/2W	R707	1-249-497-11	CARBON	33K	5%	1/4W	F
R402	Δ .1-219-022-11	FUSIBLE	100	5%	1/2W	R708	1-247-719-11	CARBON	3.3K	5%	1/4W	F
R403	Δ .1-217-997-11	FUSIBLE	10	5%	1/2W	R709	1-249-497-11	CARBON	33K	5%	1/4W	F
R404	Δ .1-217-997-11	FUSIBLE	10	5%	1/2W	R710	1-246-531-00	CARBON	270K	5%	1/4W	F
R405	Δ .1-217-997-11	FUSIBLE	10	5%	1/2W	R711	1-215-863-11	METAL OXIDE	100	5%	1W	F
R406	Δ .1-217-997-11	FUSIBLE	10	5%	1/2W	R712	1-249-460-11	CARBON	15K	5%	1/4W	F
R407	Δ .1-217-997-11	FUSIBLE	10	5%	1/2W	R713	1-249-469-11	CARBON	100K	5%	1/4W	F
R408	Δ .1-217-997-11	FUSIBLE	10	5%	1/2W	R714	1-247-725-11	CARBON	10K	5%	1/4W	F
R409	Δ .1-217-997-11	FUSIBLE	10	5%	1/2W	R716	1-249-556-11	CARBON	1.5K	5%	1/4W	F
R410	Δ .1-217-997-11	FUSIBLE	10	5%	1/2W	R717	1-247-887-00	CARBON	220K	5%	1/4W	F
R411	1-217-152-00	RES, METAL PLATE	0.33			R718	1-247-717-11	CARBON	2.2K	5%	1/4W	F
R412	1-217-152-00	RES, METAL PLATE	0.33			R719	1-247-725-11	CARBON	10K	5%	1/4W	F
R413	1-217-152-00	RES, METAL PLATE	0.33			R720	1-249-462-11	CARBON	22K	5%	1/4W	F
R414	1-217-152-00	RES, METAL PLATE	0.33			R721	1-249-465-11	CARBON	47K	5%	1/4W	F
R415	1-217-152-00	RES, METAL PLATE	0.33			R722	1-249-465-11	CARBON	47K	5%	1/4W	F
R416	1-217-152-00	RES, METAL PLATE	0.33			R723	1-249-673-11	CARBON	1K	5%	1/2W	F
R417	1-247-696-11	CARBON	47	5%	1/4W	R724	1-249-662-11	CARBON	360	5%	1/2W	F
R419	1-247-696-11	CARBON	47	5%	1/4W	R726	1-249-517-11	CARBON	36	5%	1/4W	F
R421	1-247-696-11	CARBON	47	5%	1/4W	R728	1-247-721-11	CARBON	4.7K	5%	1/4W	F
R424	Δ .1-217-997-11	FUSIBLE	10	5%	1/2W	R729	1-247-703-11	CARBON	180	5%	1/4W	F
R425	Δ .1-217-997-11	FUSIBLE	10	5%	1/2W	R751	Δ .1-212-998-00	FUSIBLE	470	5%	1/2W	F
R451	Δ .1-247-240-51	CARBON	1K	5%	1/2W	R752	Δ .1-247-721-11	CARBON	4.7K	5%	1/4W	F
R452	Δ .1-219-022-11	FUSIBLE	100	5%	1/2W	R753	Δ .1-247-721-11	CARBON	4.7K	5%	1/4W	F
R453	Δ .1-217-997-11	FUSIBLE	10	5%	1/2W	R754	1-249-497-11	CARBON	33K	5%	1/4W	F
R454	Δ .1-217-997-11	FUSIBLE	10	5%	1/2W	R755	1-249-497-11	CARBON	33K	5%	1/4W	F
R455	Δ .1-217-997-11	FUSIBLE	10	5%	1/2W	R756	1-249-497-11	CARBON	33K	5%	1/4W	F
R456	Δ .1-217-997-11	FUSIBLE	10	5%	1/2W	R757	1-249-497-11	CARBON	33K	5%	1/4W	F
R457	Δ .1-217-997-11	FUSIBLE	10	5%	1/2W	R758	1-247-719-11	CARBON	3.3K	5%	1/4W	F
R458	Δ .1-217-997-11	FUSIBLE	10	5%	1/2W							

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<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>				
R759	1-249-497-11	CARBON	33K	5%	1/4W	
R760	1-247-891-00	CARBON	330K	5%	1/4W	
R801	1-247-727-11	CARBON	10	5%	1/2W	
R802	1-216-420-11	METAL OXIDE	8.2	5%	5W	F
R804	1-247-727-11	(WG)...CARBON	10	5%	1/2W	
R805	1-247-727-11	(WG)...CARBON	10	5%	1/2W	
R851	1-247-727-11	CARBON	10	5%	1/2W	
R852	1-216-420-11	METAL OXIDE	8.2	5%	5W	F
R854	1-247-727-11	(WG)...CARBON	10	5%	1/2W	
R855	1-247-727-11	(WG)...CARBON	10	5%	1/2W	
RT302	1-224-248-XX	RES, ADJ, SOLID	470			
RT352	1-224-248-XX	RES, ADJ, SOLID	470			
RT401	1-224-550-21	RES, ADJ, SOLID	220			
RT451	1-224-550-21	RES, ADJ, SOLID	220			
RV201	1-237-849-11	RES, VAR, CARBON	20K (ATTENUTOR L)			
RV251	1-237-849-11	RES, VAR, CARBON	20K (ATTENUTOR R)			
RY801	1-515-703-11	RELAY				
RY802	1-515-703-11	RELAY				
RY901	A.1-515-617-11	(EXCEPT E)...RELAY				
S1	A.1-554-538-00	SWITCH, PUSH (AC POWER)(1 KEY)				
S1 01	1-516-785-XX	SLIDE SWITCH (OPERATION)				
S1 02	1-516-785-XX	SLIDE SWITCH (INPUT SELECTOR)				
S601	1-572-424-11	SWITCH, PUSH (2 KEY)(INPUT)				
S701	1-572-425-11	SWITCH, ROTARY (SPEAKERS)				
S901	1-572-009-11	(E)...SELECTOR, VOLTAGE				
T1	A.1-450-177-11	(E).....TRANSFORMER, POWER				
T1	A.1-450-179-11	(AEP1,WG)...TRANSFORMER, POWER				
T1	A.1-450-181-11	(AEP2).....TRANSFORMER, POWER				
T2	A.1-450-178-11	(AEP1,WG)...TRANSFORMER, POWER				
T2	A.1-450-180-11	(AEP2).....TRANSFORMER, POWER				
TM901	1-537-102-11	TERMINAL BOARD (SP)				
TM902	1-537-102-11	TERMINAL BOARD (SP)				

ACCESSORY & PACKING MATERIAL

1-575-952-11 (AEP,WG)...CABLE (WITH CONNECTOR)
 3-752-341-11 (AEP,E)...MANUAL, INSTRUCTION
 (ENGLISH, FRENCH, SPANISH, PORTUGUESE)
 3-752-341-41 (AEP,WG)...MANUAL, INSTRUCTION
 (DUTCH, SWEDISH, ITALIAN)
 4-921-404-01 CUSHION
 *4-941-754-01 INDIVIDUAL CARTON

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 Replace only with part number specified.